ORDER NO. CPD0102001C0

Service Manual

Notebook Computer

CF-28

TOUGHBOOK

When this product is repaired, the Access Key is necessary to release security of electrical and mechanical.
Ask the customer to provide the Access Key with this product.

This is the Service Manual for the following areas.

- M ...for U.S.A. and Canada
- E ...for U.K.
- G ...for Germany
- F ...for France
- S ...for Sweden
- T ...for Italy
- P ...for Spain

Model Number Reference

The models in the CF-28 series are numbered in accordance with the types of the CPU, LCD and HDD etc. featured by the product.

Model No.CF-28 ☐ ☐ ☐ ☐ **Z** ☐ ☐

CPU type
- M: for Intel® Mobile Pentium® III Processor 600 MHz

LCD type
- C: for 13.3" TFT Color with Touch Screen

HDD type / RAM size
- F: 20 GB / 128 MB

Drive
- A: Floppy Disk drive

Operating System
- C: Microsoft® Windows NT®
- D: Microsoft® Windows® 2000
- E: Microsoft® Windows® 98

Area
- M: for U.S.A. and Canada
- E: for U.K.
- G: for Germany
- F: for France
- S: for Sweden
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- P: for Spain

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

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WARNINGS

For U.K.

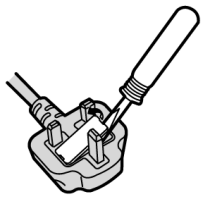
FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY
This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 3 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 3 amps and that it is approved by ASTA or BSI to BS 1362.

Check for the ASTA mark or the BSI mark on the body of the fuse.
If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic Dealer.
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.
If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.
Important
The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral
Brown: Live
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured RED.
Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol ⏚.

The mains plug on this equipment must be used to disconnect the mains power.
Please ensure that a socket outlet is available near the equipment and shall be easily accessible.

■ How to replace the fuse

Open the fuse compartment with a screw driver and replace the fuse.



Warnings

- This equipment is not designed for connection to an IT power system.
  (An IT system is a system having no direct connections between live parts and Earth; the exposed conducive parts of the electrical installation are earthed.
  An IT system is not permitted where the computer is directly connected to public supply systems in the U.K.)
- Disconnect the mains plug from the supply socket when the computer is not in use.

This equipment is produced to BS800/1983.

LITHIUM BATTERY ⚠

• **CAUTION**

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the equipment manufacture.
Discard used batteries according to the manufacturer's instructions.

LITHIUMBATTERIES ⚠

Vorsicht!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie. Ersatz nur durch denselben order einen vom Hersteller empfohlenen ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

PILE AU LITHIUM ⚠

ATTENTION: IL Y A DANGER D'EXPLOSION S' IL Y A REMPLACEMENT INCORRECT DE LA PILE. REMPLACER UNIQUEMENT AVEC UNE PILE DU MÈME TYPE OU D'UN TYPE RECOMMANDÉ PAR LE CONSTRUCTEUR. METTRE AU RÉBUT LES PILES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS DU FABRICANT.

LASER SAFETY INFORMATION

For U.S.A.

Class 1 LASER-Product

This product is certified to comply with DHHS Rules 21 CFR Subchapter J.
This product complies with European Standard EN60825 (or IEC Publication 825).

For all areas

This equipment is classified as a class 1 level LASER product and there is no hazardous LASER radiation.

Caution:

(1) Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
(2) The drive is designed to be incorporated into a computer-based system or unit which has an enclosing cover. It should never be used as a stand alone drive.

Danger:

The serviceman should not remove the cover of drive unit and should not service because the drive unit is a non-serviceable part.

- Unplug the AC power cord to the equipment before opening the top cover of the drive.
- When the power switch it on, do not place your eyes close to the front panel door to look into the interior of the unit.

LASER Specification

Class 1 level LASER Product
Wave Length : DVD 658 ± 8 nm
CD 775 ~ 815 nm

Laser safety information is appropriate only when drive with laser is installed.

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1. Specifications

This page provides the specifications for the basic model CF-28xxxxZxx. The model number will change depending on the configuration of the unit, such as, CPU speed, memory size, HDD size and Operating System.

To check the model number:
Check the bottom of the computer or the box the computer came in at the time of purchase.

To check CPU speed:
Use DMI Viewer in [Start] - [Programs] - [Panasonic] - [DMI Viewer].

To check memory size and hard disk drive (HDD) size:
1 Run the Setup Utility.
2 The memory size is confirmed in [System Memory] of the [Main] menu. The hard disk drive size is confirmed in [Primary Master] of the [Main] menu.

● Main Specifications

Model No.		CF-28MCFAZxx
CPU		Mobile Pentium® III Processor 600 MHz featuring Intel® SpeedStep™ Technology L1 Cache Memory: 32 KB L2 (Second) Cache Memory: 256 KB
Memory (Expandable to)		128 MB (384 MB Max.)
Video Memory		4 MB
LCD	**Type**	13.3 type (TFT)
	Displayed Colors*1	256/65536/16M colors (640 x 480 dots/800 x 600 dots/1024x768 dots)
External Display		256/65536/16M colors (640 x 480 dots/800 x 600 dots/1024x768 dots)
Hard Disk Drive		20 GB*2
Operating System		Microsoft® Windows NT® (for CF-28MCFAZCx) Microsoft® Windows® 2000 (for CF-28MCFAZDx) Microsoft® Windows® 98 Second Edition (FAT32 File System) (for CF-28MCFAZEx)

*1 A 16M color display is achieved by using the dithering function.
*2 1GB = 10^9 bytes

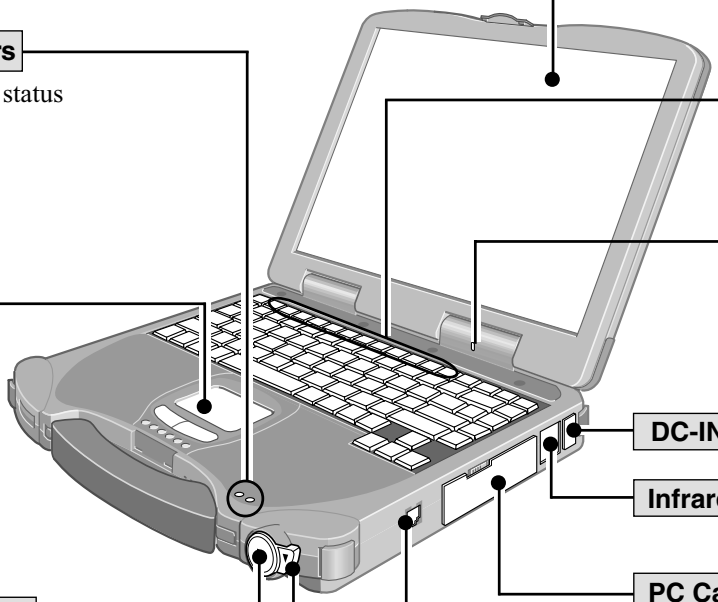
● Other Specifications

Keyboard		87 keys for US market. 88 keys for European market.			
Floppy Disk Drive		720 KB/1.44 MB			
Slots		PC Card Slots	Two Type I or Type II, or one Type III		
			Allowable current (total for two slots)	3.3 V: 400 mA, 5 V: 400 mA	
		RAM Module Slot*1	144-pin, 3.3-V, SO-DIMM, SDRAM, PC100 Compliant		
Interface		Parallel Port	Dsub 25-pin female		
		External Display Port	Mini Dsub 15-pin female		
		Serial Port	Dsub 9-pin male		
		Microphone Jack*2	Miniature jack, 3.5 DIA		
		Headphone Jack	Miniature jack, 3.5 DIA		
			Impedance 32 Ω, Output Power 4 mW x 2		
		Infrared Communication Port	IrDA 1.1 compliant, 4 Mbps data transmission speed*3		
		External Keyboard/Mouse Port	Mini DIN 6-pin female		
		Expansion Bus Connector	Dedicated 80-pin female		
		USB Port	4-pin		
		Internal Modem	Data: 56 kbps (V.90 & K56flex) FAX:14.4 kbps		
Pointing Device		Touch Pad, Touchscreen (Anti-Reflection, Finger and stylus (included) touch capable)			
Internal Microphone		Monaural Microphone (built in)			
Speaker		Monaural Speaker (built in)			
Utility Programs		Setup Utility, DMI Viewer, Panasonic Hand Writing*4			
Sound		16 bits, 44.1 kHz PCM/FM Sound			
Battery	**Battery Pack**	Li-ion 11.1 V, 5.4 Ah			
		Operating Time*5	Approx. 3.5 hours - 5.2 hours		
		Charging Time*5	Power On	Approx. 5.5 hours	
			Power Off	Approx. 3.0 hours	
	Clock Battery	Coin type lithium battery 3.0 V			
AC Adaptor*6		Input	100 V - 240 V AC, 50 Hz/60 Hz	Output	15.6 V DC, 3.85 A
Power Consumption*7		Approx. 40 W*8 / Approx. 60 W (maximum when recharging in the ON state)			
Environment		In use	Temperature Humidity	5 °C to 35 °C {41 °F to 95 °F} 30% to 80% RH (No condensation)	
		Not in use	Temperature Humidity	-20 °C to 60 °C {-4 °F to 140 °F} 30% to 90% RH (No condensation)	
Physical Dimensions (W X H X D)		302 mm X 63.5 mm (at the rear)/65.5 mm (at the front) X 275 mm {11.9 " X2.5/2.6 " X 10.8 "} (including the carrying handle, excluding protrusion)			
Weight		Approx. 4.1 kg {Approx. 9.0 lb.} (including the carrying handle)			

*1 Only a RAM card designed for PC100 can be added.
*2 Use only a monaural condenser microphone.
*3 Separate communications software is necessary.
Windows NT: The infrared data communications can not be used at 4 Mbps data transfer speed.
*4 Only Windows 98
*5 Varies depending on the usage conditions, CPU speed, etc.
*6 The AC adaptor is compatible with power sources up to 240 V AC adaptor.
This computer is supplied with a 125 V AC compatible AC cord.
*7 Approx. 1.5 W when the battery pack is fully charged (or not being charged) and the computer is off.
*8 Rated power consumption.

2. Names and Functions of Parts

The illustrations shown may differ from the actual physical appearances.



LCD

LED Indicators

- Battery pack status
- Power status

Function Keys

For information on the key combinations available.

Internal Microphone

The internal microphone can not be used when an external microphone is connected.

Touch Pad

DC-IN Jack DC IN 15.6 V

Infrared Communication Port

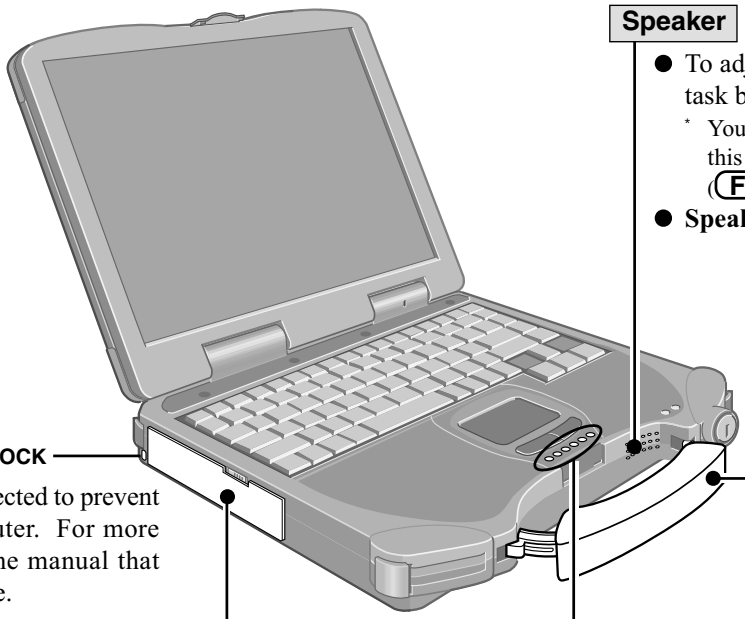
PC Card Slots

Access Lock

Internal Modem

Power Switch

Before using the computer for the first time, carefully read the [Limited Use License Agreement]. If you agree to the conditions, remove the seal.



Speaker

- To adjust the volume*, select the on the task bar, then [Volume Control].
  * You may also use the function keys to perform this operation (Fn + F5 or F6).
- **Speaker on/off : Fn + F4**

Security Lock LOCK

A cable can be connected to prevent theft of your computer. For more information, read the manual that comes with the cable.

Carrying Handle

For enhanced portability and in-the-field efficiency.

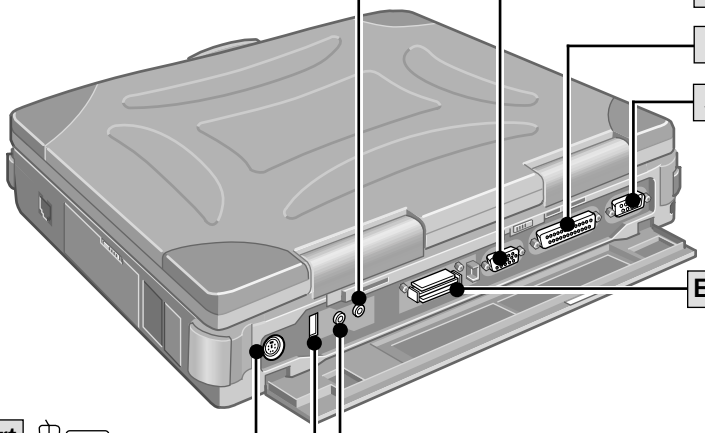
Multimedia Pocket (Floppy Disk Drive) MP

LED Indicators

- A Caps lock
- 1 Numeric key lock (NumLk)
- ↑↓ Scroll lock (ScrLk)
- MP Multimedia pocket device status
- Hard disk status
- • Reserved

Microphone Jack

Use only a monaural condenser microphone.
Using an input source other than a monaural condenser microphone may not allow audio to be input or may damage the equipment.
The settings for [Internal MIC] of the [Main] menu in the Setup Utility apply to both the Internal Microphone and the Microphone Jack.



External Display Port

Parallel Port

Serial Port

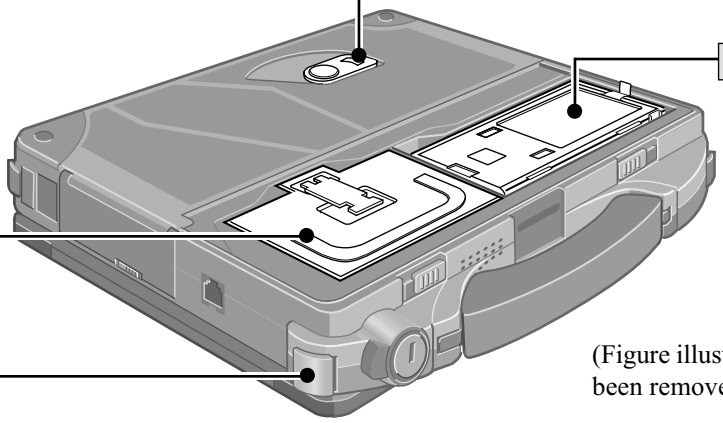
Expansion Bus Connector

External Keyboard/Mouse Port

USB Port

Headphone Jack

Use this connector to connect headphones or amplifier-equipped speakers. Audio output from the internal speaker is disabled when headphones or external speakers are connected.



MP Release Lever

Battery Pack

Hard Disk Drive

Attaching the strap

(Figure illustrating when the covers have been removed.)

3. Technical Information

3.1. System Overview

3.1.1 System Configuration

The main system is made up of a Main board, a RJ board, an IR board, a Battery board and a TS13 board. The CPU operates at 1.6V, 1.35V(core)/2.5V; the main memory at 3.3V; the core logic at 3.3V/5V; and the other main chips at 3.3V.

3.1.2 Power Supply System

The power supply used by the Main board is generated on the Main board based on the voltage from the AC adapter.

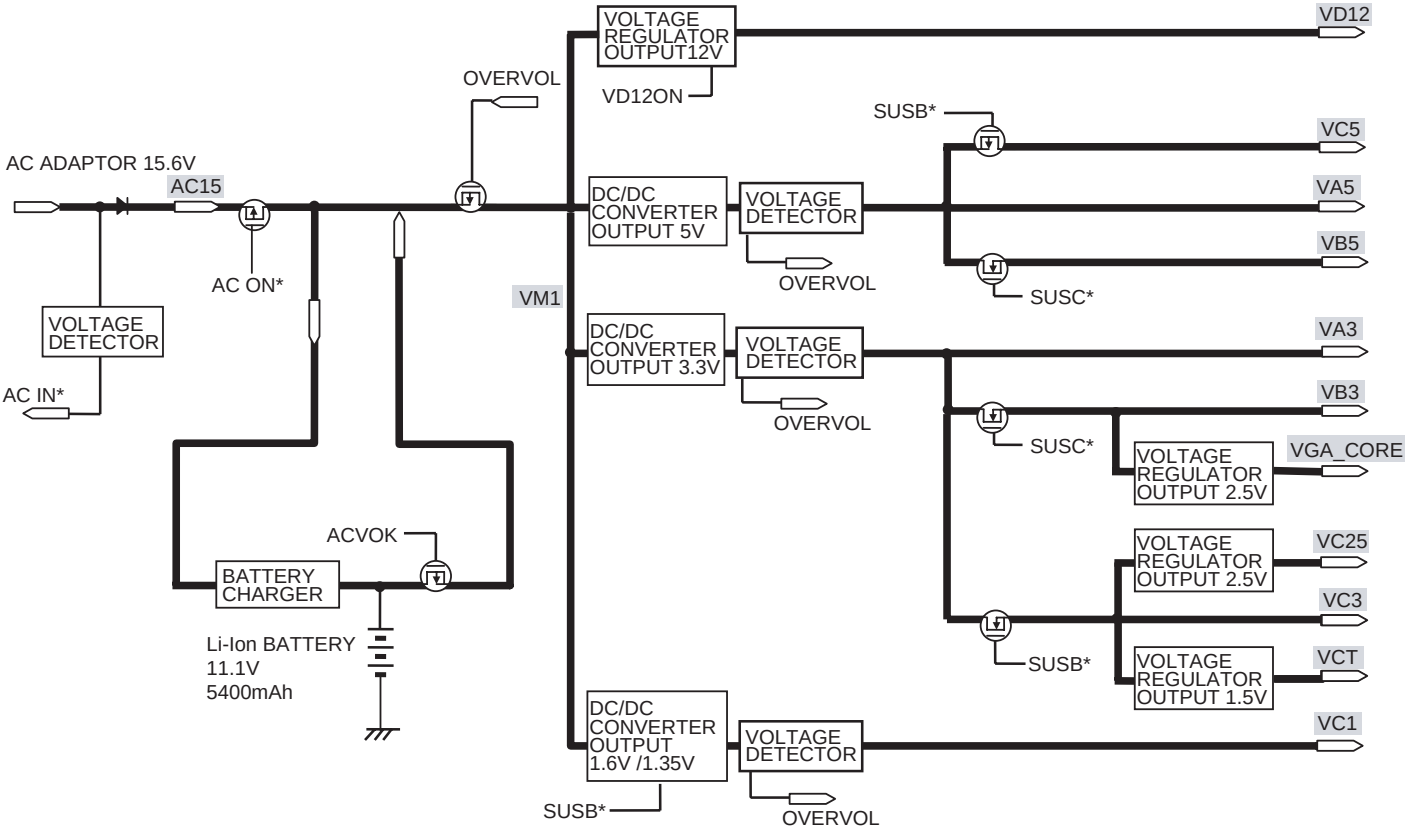
Power Supply System	Description	On mode	Suspend mode	Off/Hibernation
VC system (VC5, VC3, VC25, VC18, VC16, VC15)	CPU and logic power supply	ON	OFF	OFF
VB system (VB5, VB3)	Logic power supply	ON	ON	OFF
VA system (VA3)	PMC power supply	ON	ON	ON
VPP system (VPP)	12V power supply, for the card slot	ON	OFF	OFF

Table 1: Description of Power Supply Systems

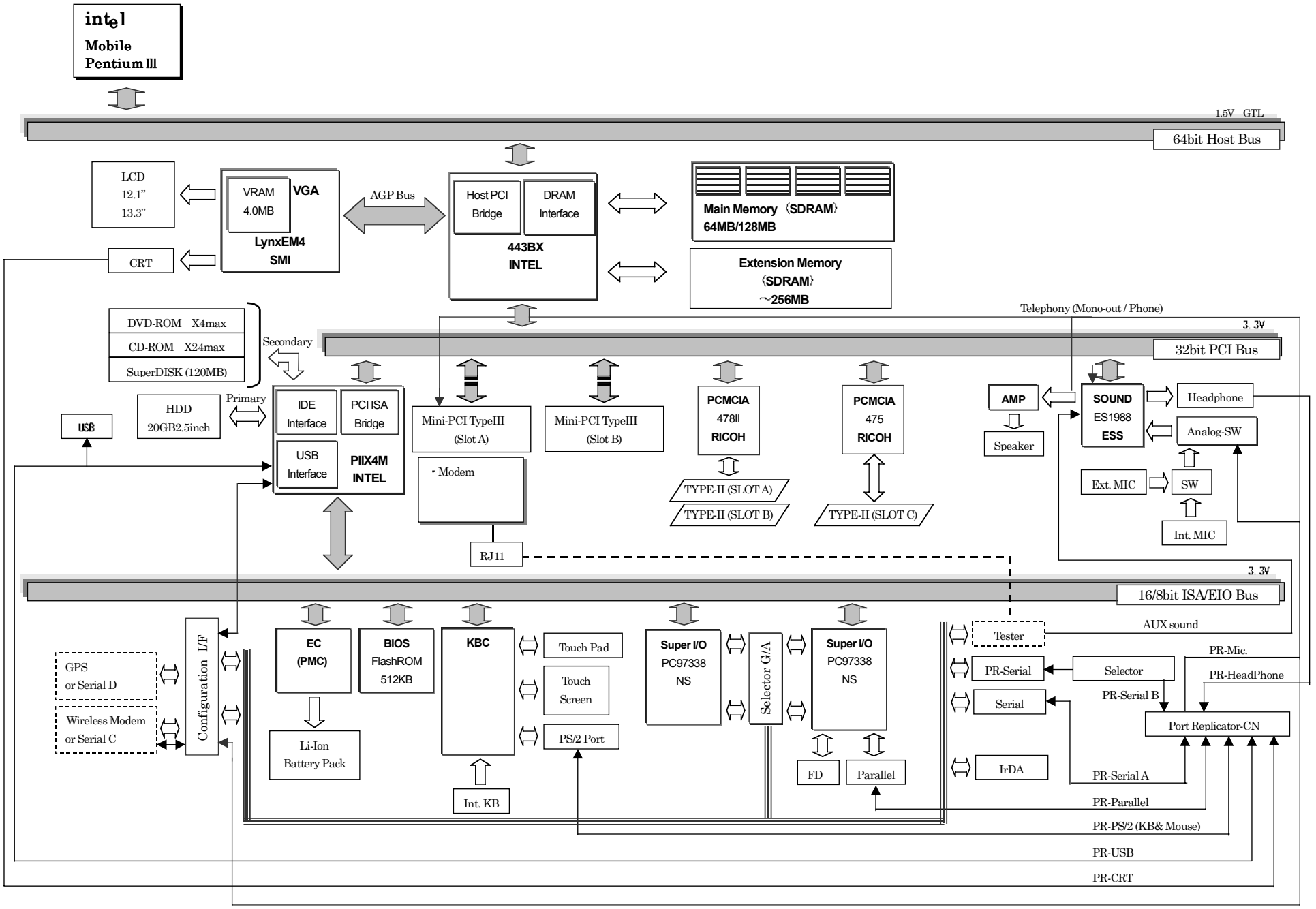
Power is supplied to the AC adapter and battery pack in that order when the RTC power is off or is in suspend mode. When neither power supply can be accessed, power is supplied from the clock battery (RTC battery).

Block Diagrams

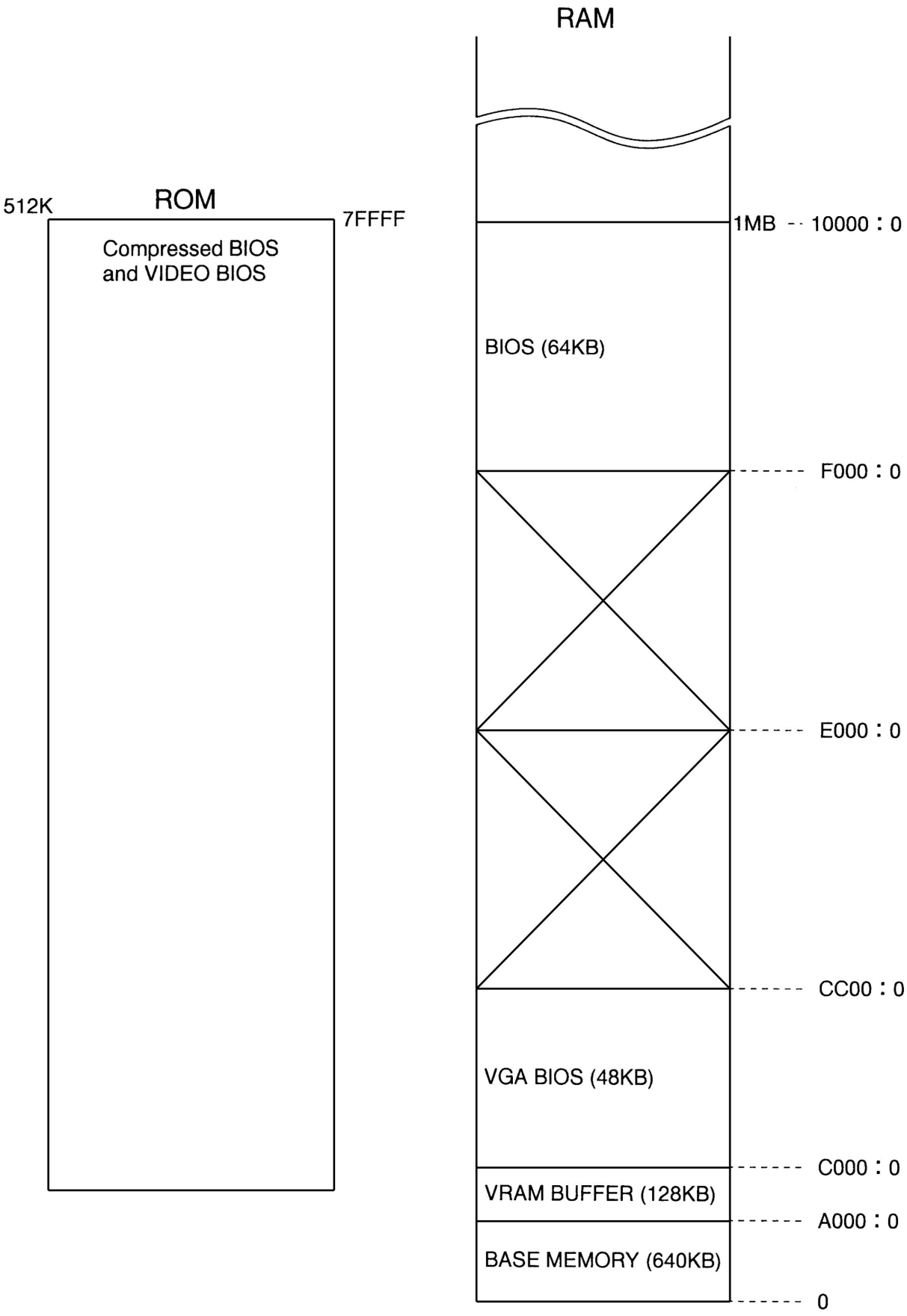
Power Supply Configuration Diagram



System Congiguration Diagram



3.2. System Memory Map



3.3. I/O Address Map

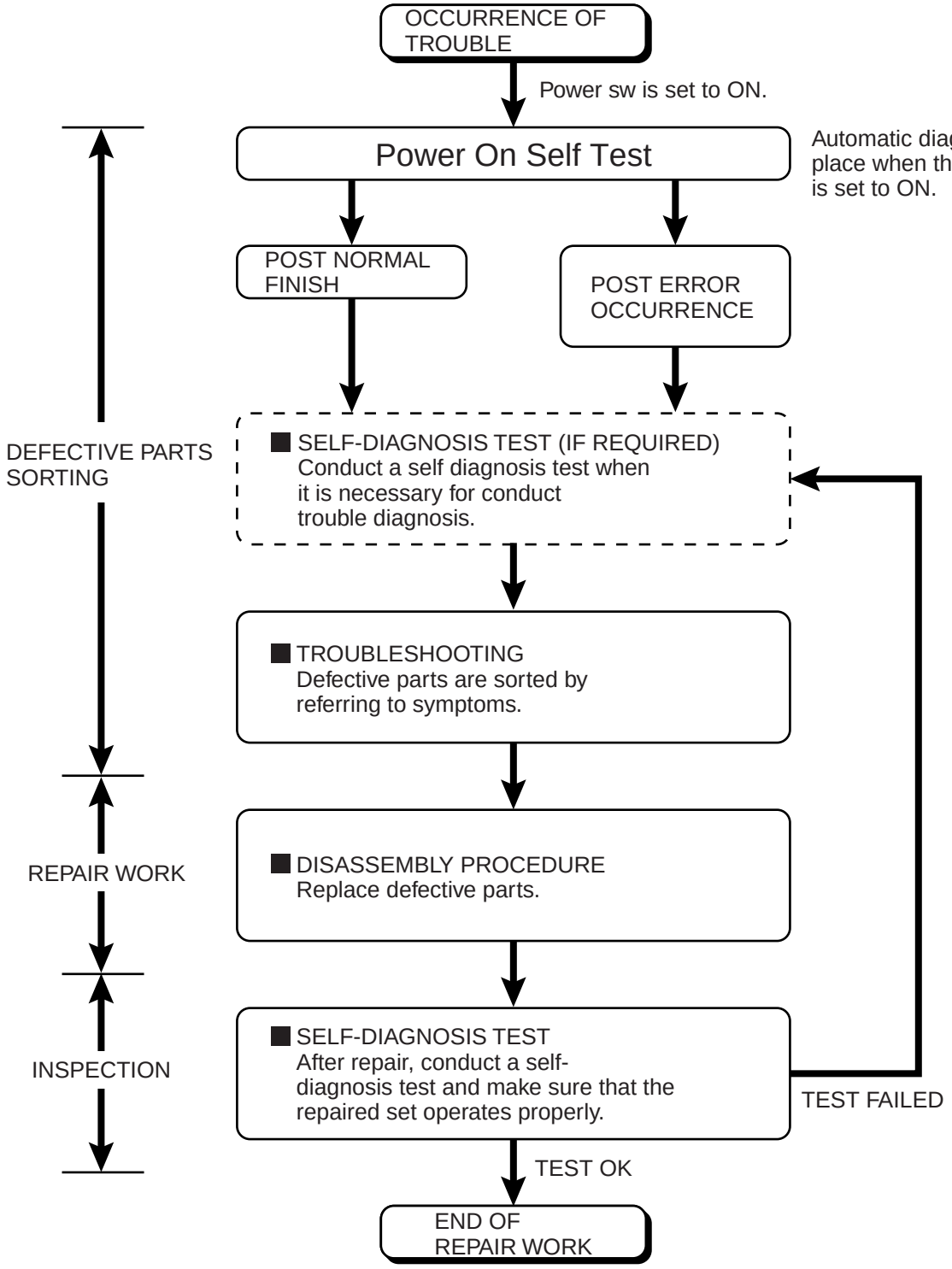
Address	Function	IC No.
x0000 - x000F	Direct memory access controller	
x0010 - x0018	Motherboard resources	
x001F - x001F	Motherboard resources	
x0020 - x0021	Programmable interrupt controller	
x0022 - x0022	Motherboard resources	
x0024 - x0025	Motherboard resources	
x0028 - x0029	Motherboard resources	
x002C - x002D	Motherboard resources	
x002E - x002F	Motherboard resources	
x0030 - x0031	Motherboard resources	
x0034 - x0035	Motherboard resources	
x0038 - x0039	Motherboard resources	
x003C - x003D	Motherboard resources	
x0040 - x0043	System timer	
x0050 - x0052	Motherboard resources	
x0060 - x0060	Standard 101/102-Key or Microsoft Natural Keyboard	
x0061 - x0061	System speaker	
x0062 - x0062	Motherboard resources	
x0064 - x0064	Standard 101/102-Key or Microsoft Natural Keyboard	
x0066 - x0066	Motherboard resources	
x0070 - x0071	System CMOS/real time clock	
x0072 - x0077	Motherboard resources	
x0080 - x0080	Motherboard resources	
x0081 - x008F	Direct memory access controller	
x0090 - x009F	Motherboard resources	
x00A0 - x00A1	Programmable interrupt controller	
x00A4 - x00A5	Motherboard resources	
x00A8 - x00A9	Motherboard resources	
x00AC - x00AD	Motherboard resources	
x00B0 - x00BD	Motherboard resources	
x00C0 - x00DF	Direct memory access controller	
x00F0 - x00FF	Numeric data processor	
x01B0 - x01B1	Motherboard resources	
x01F0 - x01F7	Intel 82371AB/EB PCI Bus Master IDE Controller	
x01F0 - x01F7	Primary IDE controller (dual fifo)	
x02F8 - x02FF	MP3930V-W(C) Modem	
x0338 - x033F	Infrared PnP Serial Port (*PNP0510)	
x0378 - x037F	ECP Printer Port (LPT1)	
x0398 - x0399	Motherboard resources	
x03B0 - x03BB	Silicon Motion LynxEM	
x03C0 - x03DF	Silicon Motion LynxEM	
x03F0 - x03F5	Standard Floppy Disk Controller	
x03F6 - x03F6	Intel 82371AB/EB PCI Bus Master IDE Controller	
x03F6 - x03F6	Primary IDE controller (dual fifo)	
x03F7 - x03F7	Standard Floppy Disk Controller	
x03F8 - x03FF	Communications Port (COM1)	
x04D0 - x04D1	Motherboard resources	
x0778 - x077F	ECP Printer Port (LPT1)	
x0CF8 - x0CFF	PCI bus	
x1000 - x103F	Motherboard resources	
x1040 - x104F	Motherboard resources	
x1050 - x1057	Primary IDE controller (dual fifo)	
x1050 - x105F	Intel 82371AB/EB PCI Bus Master IDE Controller	
x1060 - x1067	MP3930 MiniPCI Modem Enumerator	
x1400 - x14FF	ESS Allegro PCI Audio (WDM)	
xFC20 - xFC3F	Intel 82371AB/EB PCI to USB Universal Host Controller	
xFE00 - xFE01	Motherboard resources	

4. Diagnosis Procedure

4.1. Basic Procedure

The basic procedures for diagnosis, disassembly, and test of defective parts of a set to be repaired are summarized below. For details, refer to relevant pages in the Service Manual.

● **Flow Chart**


OCCURRENCE OF TROUBLE
Power sw is set to ON.
Power On Self Test
Automatic diagnosis takes place when the power switch is set to ON.
POST NORMAL FINISH
POST ERROR OCCURRENCE
DEFECTIVE PARTS SORTING
■ SELF-DIAGNOSIS TEST (IF REQUIRED)
Conduct a self diagnosis test when it is necessary for conduct trouble diagnosis.
■ TROUBLESHOOTING
Defective parts are sorted by referring to symptoms.
REPAIR WORK
■ DISASSEMBLY PROCEDURE
Replace defective parts.
INSPECTION
■ SELF-DIAGNOSIS TEST
After repair, conduct a self-diagnosis test and make sure that the repaired set operates properly.
TEST FAILED
TEST OK
END OF REPAIR WORK

4.2. Power-On Self Test (Boot Check)

4.2.1 Outline of POST

The set has a boot check function called POST (Power-On Self Test) in it. The condition of the main body is diagnosed by checking beep sound or error code.

- Start .....Test begins automatically when power switch is set to ON.
- Normal finish .....After memory checking, a beep sound is issued once and the set is placed into automatic stop.

Note: If no error occurs, nothing is displayed. (No display of OK, etc.)

4.2.2 Error Diagnosis by Checking Beep Signal Sound

The beep sound is as follows:

(1 (long sound) -2-3-4)

(Length of bar shows length of sound.)

■ = long sound (about 0.4 sec.), ■ = short sound (about 0.2 sec.), Length between sounds is about 0.1 sec.

- **Table of errors classified by beep sounds**

Diagnosis	Beep signal sound	Error message
Main board	1(long sound)-2	BIOS ROM error
	1-2-2-3	BIOS ROM error
	1-3-1-1	RAM error
	1-3-1-3	Keyboard controller error
	1-3-4-1	RAM error
	1-3-4-3	RAM error
	1-4-1-1	RAM error
	2-1-2-3	BIOS ROM error
	2-2-3-1	Occurrence of unexpected offering

(Note) A beep sound is also issued in case of other I/O trouble.

4.3. List of Error Codes

The following is a list of the messages that BIOS can display. Most of them occur during POST. Some of them display information about a hardware device, e.g., the amount of memory installed. Others may indicate a problem with a device, such as the way it has been configured. Following the list are explanations of the messages and remedies for reported problems.
If your system displays one of except the messages marked below with an asterisk (*), write down the message and contact Panasonic Technical Support. If your system fails after you make changes in the Setup menus, reset the computer, enter Setup and install Setup defaults or correct the error.

0200 Failure Fixed Disk

Fixed disk in not working or not configured properly. Check to see if fixed disk is attached properly. Run Setup. Find out if the fixed-disk type is correctly identified.

0210 Stuck key

Stuck key on keyboard.

0211 Keyboard error

Keyboard not working.

0212 Keyboard Controller Failed

Keyboard controller failed test. May require replacing keyboard controller.

0213 Keyboard locked - Unlock key switch

Unlock the system to proceed.

0230 System RAM Failed at offset : *nnnn*

System RAM failed at offset nnnn of in the 64k block at which the error was detected.

0231 Shadow RAM Failed at offset : *nnnn*

Shadow RAM failed at offset nnnn of the 64k block at which the error was detected.

0232 Extended RAM Failed at offset : *nnnn*

Extended memory not working or not configured properly at offset nnnn.

0250 System battery is dead - Replace and run SETUP

The CMOS clock battery indicator shows the battery is dead. Replace the battery and run Setup to reconfigure the system.

***0251 System CMOS checksum bad - Default configuration used**

System CMOS has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS. The BIOS installed Default SETUP Values. If you do not want these values, enter Setup and enter your own values. If the error persists, check the system battery or contact Panasonic Technical Support.

0260 System timer error

The timer test failed. Requires repair of system board.

0270 Real time clock error

Real-time clock fails BIOS test. May require board repair.

***0280 Previous boot incomplete - Default configuration used**

Previous POST did not complete successfully. POST loads default values and offers to run Setup. If the failure was caused by incorrect values and they are not corrected, the next boot will likely fail. On systems with control of **wait state**s, improper Setup settings can also terminate POST and cause this error on the next boot. Run Setup and verify that the wait-state configuration is correct. This error is cleared the next time the system is booted.

0281 Memory Size found by POST differed from EISA CMOS

Memory size found by POST differed from EISA CMOS.

02B0 Diskette drive A error

02B1 Diskette drive B error

Drive A: or B: is present but fails the BIOS POST diskette tests. Check to see that the drive is defined with the proper diskette type in Setup and that the diskette drive is attached correctly.

02B2 Incorrect Drive A type - run SETUP

Type of floppy drive A: not correctly identified in Setup.

02B3 Incorrect Drive B type - run SETUP

Type of floppy drive B: not correctly identified in Setup.

02D0 System cache error - Cache disabled

Contact Panasonic Technical Support.

02F0: CPU ID:

CPU socket number for Multi-Processor error.

02F4: EISA CMOS not writable

ServerBIOS2 test error: Cannot write to EISA CMOS.

02F5: DMA Test Failed

ServerBIOS2 test error: Cannot write to extended DMA (Direct Memory Access) registers.

02F6: Software NMI Failed

ServerBIOS2 test error: Cannot generate software NMI (Non-Maskable Interrupt).

02F7: Fail - Safe Timer NMI Failed

ServerBIOS2 test error: Fail-Safe Timer takes too long.

***device* address Conflict**

Address conflict for specified *device.*

Allocation Error for: *device*

Run ISA or EISA Configuration Utility to resolve resource conflict for the specified *device.*

Failing Bits : *nnnn*

The hex number nnnn is a map of the bits at the RAM address which failed the memory test. Each 1 (one) in the map indicates a failed bit. See error 230,231 or 232 for offset address of the failure in System, Extended or Shadow memory.

Invalid System Configuration Data

Problem with NVRAM (CMOS) data.

I/O device IRQ conflict

I/O device IRQ conflict error.

Operating System not found

Operating system cannot be located on either drive A: or drive C:. Enter Setup and see if fixed disk and drive A: are properly identified.

Parity Check 1 *nnnn*

Parity error found in the system bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????. Parity is a method for checking errors in binary data. A parity error indicates that some data has been corrupted.

Parity Check 2 *nnnn*

Parity error found in the I/O bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????.

Press <F1> to resume, <F2> to Setup

Displayed after any recoverable error message. Press <F1> to start the boot process or <F2> to enter a Setup and change the settings. Write down and follow the information shown on the screen.

4.4. Diagnosis Map

4.4.1 MAIN UNIT DIAGNOSIS (1/2)

Make sure that connecting cables, connectors and AC adapter are not loose or disconnected prior to testing.

No.	Symptom	Troubleshooting procedures No.	Troubleshooting procedures	Result	Source of problem	Component
1	No power is sent to the unit.	1-1	Is 15V applied to pins 5-8 of Q53? (Whichever one)?	YES	Go to No. 1-5	IC20
				NO	Go to No. 1-2	AC Adapter
		1-2	Is voltage pin 4 of Q53 lower than 1V?	YES	—	—
				NO	If lower than 15V	D19, D20 D21, D22
		1-3	Before setting the power switch to ON, check voltage on either side of R372. Is Voltage 3.3V?	YES	If voltage is 0V during the power switch is set to ON, go to No. 1-7	—
					If not 0V	POWER SW
				NO	If voltage of C404 is 3.3V	R372
					If lower than 3V	IC74
		1-4	Final Means	—	Main PCB	IC74
	No power is sent to the unit, (When using the Battery Pack)	1-5	Is 8~11.4V applied to pins 1~3 of Q50? (Whichever one)	YES	Go to No. 1-3	—
				NO	Go to No. 1-2	—
2	Power cuts off during operation.	2-1	Check soldered parts of R355, 356, 365 and R367.	NO	If they show soldered completely	R355, R356 R365, R367
				YES	—	IC74

4.4.2 MAIN UNIT DIAGNOSIS (2/2)

Make sure that connecting cables, connectors and AC adapter are not loose or disconnected prior to testing.

No.	Symptom	Troubleshooting procedures No.	Troubleshooting procedures	Result	Source of problem	Component
1	When a device is selected for “Boot Up Drive”, the system boots from a different device.	1-1	Are there system files in the device selected?	YES	Go to No. 1-2	—
				NO	Improper setting	—
		1-2	Does the unit operate normally after replacing the problem device.	YES	Device for which the problem occurred	—
				NO	Main PCB	(HDD) IC43
						(FDD/SDD) IC43 IC47
2	Date or Time cannot be input. Date and Time does not change properly. Date and Time are not displayed.	2-1	Replace the Main PCB.	—	Main PCB	IC43 X2 RTC battery
3	Memory count is too large or too small.	3-1	Replace the Main PCB.	—	Main PCB	IC35~IC41 IC80~IC83 IC33

No.	Symptom	Troubleshooting procedures			Source of problem	Component
		No.		Result		
4	No Sound Volume does not work.	4-1	Check software setting.	YES	Software setting	——
				NO	Go to No. 4-2	——
		4-2	Replace the Speakers. Does operation return to normal?	YES	Speakers	——
				NO	Go to No. 4-3	——
		4-3	Replace the Main PCB.	—	Main PCB	IC50 IC51
5	Default configuration in use	5-1	Check configuration.	—	Configuration	——
6	Interrupt controller failure	6-1	———	—	Main PCB	IC43
7	Timer failure	7-1	———	—	Main PCB	——
8	Expansion card ROM checksum error	8-1	Does the system return to normal if the expansion card is removed?	YES	Go to No. 8-2	——
				NO	Main PCB	IC43 IC33
		8-2	Replace the expansion card. Does operation return to normal?	YES	Expansion card	——
				NO	Main PCB	——
9	Real Time Clock failure	9-1	———	—	Main PCB	IC43
10	Dead RTC Battery	10-1	Does resetting through SETUP correct the problem?	YES	Error during SETUP	——
				NO	Go to No. 10-2	——
		10-2	Replace the battery. Does operation return to normal?	YES	Battery	RTC battery
				NO	Main PCB	IC43
11	Configuration error	11-1	Check configuration.	—	Configuration	——
12	CMOS Checksum error	12-1	Were the correct settings selected during SETUP?	YES	Go to No. 12-2	——
				NO	Go to No. 12-4	——
		12-2	Replace the FDD. Does operation return to normal?	YES	FDD	——
				NO	Go to No. 12-3	——
		12-3	Replace the HDD. Does operation return to normal?	YES	HDD	——
				NO	Go to No. 12-4	——
		12-4	Does resetting through SETUP correct the problem?	YES	Error during SETUP	——
				NO	Main PCB	IC43 X2
13	Real time Clock is not updating	13-1	Does resetting the date/time in SETUP correct the problem?	YES	Error during SETUP	——
				NO	Main PCB	IC43
14	Memory size/data error	14-1	Replace the expansion RAM card. Does operation return to normal? (Go to “NO” if not connected.)	YES	Expansion RAM card	——
				NO	Main PCB	IC33 IC35~IC41 IC80~IC83
15	PCI failur	15-1	Does the system return to normal if the expansion card is removed?	YES	Go to No. 15-2	——
				NO	Main PCB	IC33
		15-2	Replace the expansion card. Does operation return to normal?	YES	Expansion card	——
				NO	Main PCB	IC33

4.4.3 LCD DIAGNOSIS

Make sure that connecting cables, connectors and AC adapter are not loose or disconnected prior to testing.

No.	Symptom	Troubleshooting procedures			Source of problem	Component
		No.		Result		
1	No picture appears on the screen.	1-1	Does the LCD display properly after brightness level is adjusted?	YES	Brigntness adjustment	—
				NO	Go to No. 1-2	—
		1-2	Replace the LCD. Does operation return to normal?	YES	LCD	—
				NO	Go to No. 1-3	—
		1-3	Replace the Main PCB. Does operation return to normal?	YES	Main PCB	IC6
				NO	LCD cable	—
2	Display is too dark or too bright.	2-1	Does the LCD display properly after brightness level is adjusted?	YES	Brigntness adjustment	—
				NO	Go to No. 2-2	—
		2-2	Replace the LCD. Does operation return to normal?	YES	LCD	—
				NO	Go to No. 2-3	—
		2-3	Replace the Main PCB. Does operation return to normal?	YES	Main PCB	CN9 IC20
				NO	LCD cable	—
3	Part of the screen does not display properly. Display quality poor. (Fuzzy or slanted, etc.)	3-1	Replace the LCD. Does operation return to normal.	YES	LCD	—
				NO	Go to No. 3-2	—
		3-2	Replace the Main PCB. Does operation return to normal?	YES	Main PCB	IC6
				NO	LCD cable	—
4	Backlight does not turn on.	4-1	Replace the Inverter PCB. Does operation returnt o normal?	YES	Inverter PCB	—
				NO	Go to No. 4-2	—
		4-2	Replace the Inverter cable. Does operation return to normal?	YES	Inverter cable	—
				NO	Go to No. 4-3	—
		4-3	Replace the backlight. Does operation return to normal?	YES	Backlight	—
				NO	Main PCB	CN9 IC20

4.4.4 KEYBOARD, MOUSE or TOUCH PAD DIAGNOSIS

Make sure that connecting cables, connectors and AC adapter are not loose or disconnected prior to testing.

No.	Symptom	Troubleshooting procedures			Source of problem	Component
		No.		Result		
1	Key top cannot be pressed. Key top does not spring back after pressing.	1-1	Keyboard is broken.	—	Keyboard	——
2	None of the keys function. Certain keys do not function.	2-1	Replace the keyboard and see if inputting from the keyboard function normally?	YES	Keyboard	——
				NO	Main PCB	——
3	Input character is displayed as grabage.	3-1	Does the screen mode correspond to the key entry mode?	YES	Go to No. 3-2	——
				NO	Operating mistake	——
		3-2	Is the keyboard setting in the operating system correct?	YES	Go to No. 3-3	——
				NO	Software setting	——
		3-3	Replace the keyboard and see if inputting from the keyboard functions normally.	YES	Keyboard	——
				NO	Main PCB	IC79
4	Mouse does not function. Inputs from the mouse are not accepted properly.	4-1	Replace the mouse. Does operation return to normal?	YES	Mouse	——
				NO	Main PCB	IC79
5	Touch pad not function. Input from the track ball are not accepted properly.	5-1	Replace the touch pad. Does operation return to normal?	YES	Touch Pad	——
				NO	Go to No. 5-2	——
		5-2	Replace the touch pad FPC. Does operation return to normal?	YES	Touch Pad FPC	——
				NO	Main PCB	IC79
6	Keyboard failure	6-1	Is the keyboard properly connected?	YES	Go to No. 7	——
				NO	Keyboard was not connected properly	——
7	Keyboard interface failure	7-1	Replace the keyboard. Does operation return to normal?	YES	Keyboard	——
				NO	Main PCB	IC79

4.4.5 FDD DIAGNOSIS

Make sure that connecting cables, connectors and AC adapter are not loose or disconnected prior to testing.

No.	Symptom	Troubleshooting procedures			Source of problem	Component
		No.		Result		
1	Access lamp does not light.	1-1	Replace the FDD. Does operation return to normal?	YES	FDD	——
				NO	Go to No. 1-2	——
		1-2	Replace the LED PCB. Does operation return to normal?	YES	LED PCB	LD4
				NO	Go to No. 1-3	——
		1-3	Replace the Main PCB. Does operation return to normal?	YES	Main PCB	IC43
				NO	FDD FPC	——
2	Cannot insert floppy disk. Cannot remove floppy disk.	2-1	In the floppy disk warped or bent, or labels interfering?	YES	Floppy disk	——
				NO	FDD	——
3	Does not boot from FDD.	3-1	Are there system files on the media?	YES	Main PCB	IC43
				NO	Software	——
4	Cannot read from floppy disk. Cannot write to floppy disk.	4-1	Is the floppy disk format correct for the operating system currently being used?	YES	Go to No. 4-2	——
				NO	Floppy disk format	——
		4-2	Does this occur for a specific floppy disk?	YES	Floppy disk	——
				NO	Go to No. 4-3	——
		4-3	Try cleaning the disk heads. Does this fix the problem?	YES	Heads were dirty	——
				NO	Go to No. 4-4	——
		4-4	Replace the FDD. Does operation return to normal?	YES	FDD	——
				NO	Go to No. 4-5	——
		4-5	Replace the FDD FPC. Does operation return to normal?	YES	FDD FPC	——
				NO	Main PCB	IC43
5	Floppy disk is scratched or otherwise damaged.	5-1	Try cleaning the disk heads. Does this fix the problem?	YES	Heads were dirty	——
				NO	FDD	——
6	Content of floppy disk is destroyed.	6-1	Was the eject button pressed while the system was accessing the disk?	YES	Operating mistake	——
				NO	Go to No. 6-2	——
		6-2	Replace the FDD. Does operation return to normal?	YES	FDD	——
				NO	Main PCB	IC43
7	Damage to contents written to floppy disk. Damage to contents read from floppy disk.	7-1	Does this occur for a specific floppy disk?	YES	Floppy disk	——
				NO	Go to No. 7-2	——
		7-2	Replace the FDD. Does operation return to normal?	YES	FDD	——
				NO	Go to No. 7-3	——
		7-3	Replace the FDD FPC. Does operation return to normal?	YES	FDD FPC	——
				NO	Main PCB	IC43
8	Abnormal sound.	8-1	Does it sound like the head is moving?	YES	Normal	——
				NO	Go to No. 8-2	——
		8-2	Does the abnormal sound stop when the motor stops running.	YES	FDD	——
				——	——	——
9	Diagnostic Test reports problem in FDC.	9-1	Replace the FDD. Does operation return to normal?	YES	FDD	——
				NO	Go to No. 9-2	——
		9-2	Replace the FDD FPC. Does operation return to normal?	YES	FDD FPC	——
				NO	Main PCB	IC43

4.4.6 HDD DIAGNOSIS

Make sure that connecting cables, connectors and AC adapter are not loose or disconnected prior to testing.

No.	Symptom	Troubleshooting procedures			Source of problem	Component
		No.		Result		
1	Does not boot from HDD.	1-1	Has the HDD been partitioned?	YES	Go to No. 1-2	—
				NO	Improper setting	—
		1-2	Are there system files on the HDD?	YES	Go to No. 1-3	—
				NO	Software on the HDD	—
		1-3	Replace the HDD. Does operation return to normal?	YES	HDD	—
				NO	Go to No. 1-4	—
		1-4	Replace the HDD cable. Does operation return to normal?	YES	HDD cable	—
				NO	Main PCB	IC43
2	Cannot read from HDD. Cannot write to HDD.	2-1	Has the HDD been formatted?	YES	Go to No. 2-2	—
				NO	HDD format	—
		2-2	Replace the HDD. Does operation return to normal?	YES	HDD	—
				NO	Go to No. 2-3	—
		2-3	Replace the HDD cable. Does operation return to normal?	YES	HDD cable	—
				NO	Main PCB	IC43
3	Damage to data written to HDD. Damage to data read from HDD. HDD contents are destroyed.	3-1	Replace the HDD. Does operation return to normal?	YES	HDD	—
				NO	Go to No. 3-2	—
		3-2	Replace the HDD cable. Does operation return to normal?	YES	HDD cable	—
				NO	Main PCB	IC43
4	Dignositic Test reports problem in HDC or HDD.	4-1	Replace the HDD. Does operation return to normal?	YES	HDD	—
				NO	Main PCB	IC43
5	Access lamp does not light.	5-1	Has the HDD been configured in the OS?	YES	Go to No. 5-2	—
				NO	Improper setting	—
		5-2	Replace the HDD. Does operation return to normal?	YES	HDD	—
				NO	Go to No. 5-3	—
		5-3	Replace the LED PCB. Does operation return to normal?	YES	LED PCB	LD5
				NO	Go to No. 5-4	—
		5-4	Replace the Main PCB. Does operation return to normal?	YES	Main PCB	IC43
				NO	HDD cable	—
6	Abnormal sound.	6-1	Replace the HDD.	—	HDD	—
7	Hard disk failure	7-1	Does executing FDISK correct the problem?	YES	Format data destroyed	—
				NO	Go to No. 7-2	—
		7-2	Replace the HDD. Does operation return to normal?	YES	HDD	—
				NO	Go to No. 7-3	—
		7-3	Replace the HDD cable. Does opration return to normal?	YES	HDD cable	—
				NO	Main PCB	IC43

No.	Symptom	Troubleshooting procedures			Source of problem	Component
		No.		Result		
8	An operating system could not be found	8-1	Does executing FDISK correct the problem?	YES	Format data destroyed	——
				NO	Go to No. 8-2	——
		8-2	Replace the HDD. Does operation return to normal?	YES	HDD	——
				NO	Go to No. 8-3	——
		8-3	Replace the HDD cable. Does operation return to normal?	YES	HDD cable	——
				NO	Main PCB	IC43

4.4.7 SERIAL COMMUNICATION DIAGNOSIS

Make sure that connecting cables, connectors and AC adapter are not loose or disconnected prior to testing.

No.	Symptom	Troubleshooting procedures			Source of problem	Component
		No.		Result		
1	Data cannot be sent or received.	1-1	Is the COM port properly set?	YES	Go to No. 1-2	——
				NO	Improper setting	——
		1-2	Is the same transmission protocol set for both the sending and receiving units?	YES	Go to No. 1-3	——
				NO	Improper setting	——
		1-3	Does the RS-232C on the Main PCB operate normally under a loopback test?	YES	Check the interface with the other computer	——
				NO	Main PCB	IC47 IC48
2	Unit will not communicate with another computer when connected directly.	2-1	Is the connection cable a dedicated cross-patched cable?	YES	Go to No. 2-2	——
				NO	Connection cable	——
		2-2	Is the same transmission protocol set for both the sending and receiving units?	YES	Go to No. 2-3	——
				NO	Improper setting	——
		2-3	Does the RS-232C on the Main PCB operate normally under a reverse test?	YES	Check the interface with the other computer	——
				NO	Main PCB	IC47 IC48
3	Unit will not communicate with modem.	3-1	Is the COM port properly set?	YES	Go to No. 3-2	——
				NO	Improper setting	——
		3-2	Is the trasmission protocol correct?	YES	Go to No. 3-3	——
				NO	Improper setting	——
		3-3	Does the modem operate normally under a local analog loopback test?	YES	Line	——
				NO	Go to No. 3-4	——
		3-4	Does the RS-232C on the main board operate normally under a loopback test?	YES	Modem	——
				NO	Main PCB	IC47 IC48
4	Diagnostic Test reports problem in serial port.	4-1	Is the loop back device properly attached to the connector (for an external loop back)?	YES	Main PCB	IC47 IC48
				NO	Improper setting	——

4.4.8 PRINTING DIAGNOSIS

Make sure that connecting cables, connectors and AC adapter are not loose or disconnected prior to testing.

No.	Symptom	Troubleshooting procedures		Result	Source of problem	Component
		No.				
1	Data does not print from the printer.	1-1	Does the printer pass its self-printing test?	YES	Main PCB	IC47
				NO	Printer	——
2	Data prints out incorrectly.	2-1	Does the printer pass its self-printing test?	YES	Go to No. 2-2	——
				NO	Printer	——
		2-2	Is the Parallel Port (Data Direction) setting correct?	YES	Main PCB	IC47
				NO	Improper setting	——
3	The unit hangs after outputting data from the printer.	3-1	Replace the Main PCB. Does operation return to normal?	YES	Main PCB	IC47
				NO	Printer	——
4	Print area is out of line.	4-1	Does the printer pass its self-printing test?	YES	Main PCB	IC47
				NO	Printer	——
5	Data is printed all on one line. (Carriage return does not work.)	4-2	Does the printer pass its self-printing test?	YES	Main PCB	IC47
				NO	Printer	——

4.4.9 INFRARED COMMUNICATION DIAGNOSIS

Make sure that connecting cables, connectors and AC adapter are not loose or disconnected prior to testing.

No.	Symptom	Troubleshooting procedures		Result	Source of problem	Component
		No.				
1	Data cannot be sent or received.	1-1	Is the Infrared Communication Port enabled in Setup?	YES	Go to No. 1-2	——
				NO	Improper setting	——
		1-2	Is the same transmission protocol set for both the sending and receiving units?	YES	Go to No. 1-3	——
				NO	Improper setting	——
2	Transmitted data becomes corrupted.	2-1	Is the transmission distance within 20-50 cm?	YES	Go to No. 2-2	——
				NO	Use within specified distance	——
		2-2	Is the transmisson path clear of obstacles and interference? Is the unit operated away from TV sets, video, wireles headphones, incandescent lamps or other electronic equipment? Is the unit operated away from direct sunlight?	YES	Main PCB	IC47 IC770
				NO	Change operating environment	——

5. Diagnostic Test

5.1. Diagnostic Test Procedure

5.1.1 Equipment

(1) Test Computer ..... 1 unit
(2) AC Adapter ..... 1 pc.
(3) External Printer ..... 1 unit
(4) Loopback Plug (Parallel Port Test) [P/N: DFWV95C0081] ..... 1 pc.
(5) Loopback Plug (Serial Port Test for RS232C) [P/N: DFWV95C0067] ..... 1 pc.
(6) Floppy Disk containg file DIAG ..... 1 pc.

5.1.2 Preparation

(1) Connect the AC Adapter and External Printer to the computer.
(2) The System Setup should be set to the factory setting values by executing the "SETUP UTILITY" which can be invoked by F2 key at the POST.
If not, the messages and items of the diagnostic test may not be displayed properly on the LCD.
(3) The serial port must be enabled in the "SETUP UTILITY" in order to execute the "1st SERIAL PORT" test.
(4) Connect the serial loopback plug.
(5) In order to test the parallel port with Loopback Plug, disconnect the printer cable and connect the parallel loopback plug with Power OFF.

5.1.3 NOTICE

When "Enter password" is displayed, use "Password Skipping Plug" in order to skip the user password.
1) Connect the parallel plug to the parallel port.
2) Connect the PS/2 mouse plug to the mouse port.
3) Power on the computer.

The wiring of the parallel plug is described below.
Connect pins 2-5-6-8-11-13-15-18-19-20-21-22-23 to Shield GND (PS/2 mouse plug pin 3.)
Connect pins 3-4-7-9-10-12 to VC5 (PS/2 mouse plug pin 4) with 4.7KW each.

CAUTION

The plug described above must be used for servicing purpose only.
Do not use it for other than the above purpose and ensure that it remains confidential.

Using the plug enables the user to skip the previous password and disable the password.

5.1.4 Test Procedure

Use the floppy disk containing file diag28.

Press [D] [I] [A] [G] [2] [8] and [Enter] keys.

DIAGNOSTIC MENU (V*.*L**)

1. TEST ALL DEVICES (■ DEVICES)
2. TEST AUTOMATICALLY (■ DEVICES)
3. EXIT
■ 4. MAIN BOARD
■ 5. xxxxxKB RANDOM ACCESS MEMORY
■ 6. KEYBOARD
7. TRACK BALL/MOUSE
■ 8. BATTERY PACK
■ 9. VIDEO
■ 10. 1 HARD DISK DRIVE(S)
■ 11. 1 FLOPPY DISK DRIVE(S)
12. 1 PARALLEL PORT(S)
■ 13. 1 SERIAL PORT(S)
■ 14. PCCARD CONTROLLER
■ 15. INFRARED COMMUNICATION PORT

SELECT MENU : _

Select test item, Press number and Enter keys.

1) MAIN BOARD TEST

Press (4) and (Enter) keys.

```
MAIN BOARD TEST
```

(Normal Message) : Test done ! ! Hit any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

2) xxxxxKB RANDOM ACCESS MEMORY TEST

Press (5) and (Enter) Keys.

```
BASE RAM TEST
    CURRENT BASE RAM SIZE = 640KB
    640KB   OK
EXTENDED RAM TEST
    CURRENT EXTENDED RAM SIZE = xxxxxKB
    xxxxxKB   OK
```

(Normal Message) : Test done ! ! Hit any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

3) KEYBOARD TEST

Press (6) and (Enter) keys.

```
KEYBOARD
   1.  TEST ALL DEVICES       ( ■ DEVICES)
   2.  TEST AUTOMATICALLY  ( ■ DEVICES)
   3.  EXIT
   4.  PRESS KEY TEST
■  5.  SCAN CODE RETURN TEST
SELECT MENU :  _
```

For 4. PRESS KEY TEST.

Press (4) and (Enter) Keys.

```
PRESS KEY TEST
   1. TEST ALL DEVICES       ( ■ DEVICES)
   2. TEST AUTOMATICALLY  ( ■ DEVICES)
   3. EXIT
   4. U.S.A.
   5. U.K.
   6. SWEDEN
   7. JAPAN
   8. GERMANY
   9. FRANCE
   10. ITALY
   11. SPAIN
   12. SWISS  (Gr)
SELECT MENU :  _
```

For 4. U.S.A..

Press (4) * and (Enter) keys.

```
KEYBOARD TEST
    Press each key for character replacement
    If correct, press "Y" and "ENTER"
    If not correct, press "N" and "ENTER"
```

*Note: Press appropriate number accordingto the keyboard layout.

(Normal Message): Keyboard is OK Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

For 5. SCAN CODE RETURN TEST.

Press (5) and (Enter) keys.

```
KEYBOARD  RETURN  CODE  TEST
```

Immediately after this message is displayed,press the key of the test you would like toperform.
(The routine will terminate if no entry is pressed.)

Press any key. (Normal message) : KEY Key has been hit or broken (F10)

SCAN code : xx

Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Massage].

4) POINTING DEVICE

Press (7) and (Enter) keys.

```
Track Ball/Mouse Test
Left button       OFF
Right button      OFF
Is this correct  ?  (Y/N)
```

1. If the condition is normal, the cursor moves according to the movement of the mouse.
2. Pressing the button on the left or right side of the mouse causes display to change from OFF to ON.

5) BATTERY PACK TEST

Press (8) and (Enter) keys.

```
BATTERY PACK TEST
Battery Pack : exists.
AC Adaptor : connected (Not connected)
```

(Normal message) : Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Massage].

6) VIDEO TEST

Press (9) and (Enter) keys.

```
VIDEO
      1. TEST ALL DEVICES      ( ■ DEVICES)
      2. TEST AUTOMATICALLY    ( ■ DEVICES)
      3. EXIT
   ■  4. VGA COLOR MODE TEST
   ■  5. VGA MONO MODE TEST
   ■  6. S-VGA COLOR MODE TEST

SELECT MENU : _
```

*Use these tests to look at the screen and verify that the LCD screen is displaying properly,.

Select the desired test item, and execute by the (Enter) key.

7) 1 HARD DISK DRIVE(S) TEST

Press (10) and (Enter) keys.

```
1st HARD DISK DRIVE(S)
      1. TEST ALL DEVICES      ( ■ DEVICES)
      2. TEST AUTOMATICALLY    ( ■ DEVICES)
      3. EXIT
   ■  4. HARD DISK CONTROLLER TEST
   ■  5. 1st HARD DISK DRIVE TEST
SELECT : _
```

For 4. HARD DISK CONTROLLER TEST.

Press (4) and (Enter) keys

```
HARD DISK CONTROLLER TEST
```

(Normal Message) : Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

For 5. 1st HARD DISK DRIVE TEST.

Press (5) and (Enter) keys.

```
1st HARD DISK DRIVE TEST
      1. TEST ALL DEVICES      ( ■ DEVICES)
      2. TEST AUTOMATICALLY    ( ■ DEVICES)
      3. EXIT
   ■  4. HDD - DRIVE TEST
      5. HDD - READ/WRITE TEST
   ■  6. HDD - SEQUENTIAL SEEK TEST
   ■  7. HDD - RANDOM SEEK TEST
SELECT : _
```

For 4. HDD - DRIVE TEST.

Press (4) and (Enter) keys.

```
1st HDD - DRIVE TEST
Count value to get SEEK COMPLETE = 0
```

(Normal Message) : Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message]

For 5. HDD - READ/WRITE TEST.

Press (5) and (Enter) keys.

```
1st HDD - READ/WRITE TEST
   xxxxxxxxxxxxxxxxxxxxx Warning ! ! ! xxxxxxxxxxxxxxxxxxxx
      Reserved cylinder for DIAGNOSTICS will lose its data.
      Reserved cylinder number = ***
   xxxxxxxxxxxxxxxxxxxxx Warning ! ! ! xxxxxxxxxxxxxxxxxxxx
Do you want to continue ? (Y/N)
```

Press (Y) key.

(Normal Message) : Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

For 6. HDD - SEQUENTIAL SEEK TEST.

Press (6) and (Enter) keys.

```
1st HDD - SEQUENTIAL SEEK TEST
Cylinder = xxx
```

The numbers indicated by xxx will vary depending on the type of HDD.

(Normal Message) : Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

For 7. HDD - RANDOM SEEK TEST.

Press (7) and (Enter) keys.

```
1st HDD - RANDOM SEEK TEST
Cylinder = xxx
```

The numbers indicated by xxx will vary depending on the type of HDD.

(Normal Message) : Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

8) 1FLOPPY DISK DRIVE(S) TEST

Press (11) and (Enter) keys.

```
1st FLOPPY DISK DRIVE(S)
   1. TEST ALL DEVICES      ( ■ DEVICES)
   2. TEST AUTOMATICALLY  ( ■ DEVICES)
   3. EXIT
■  4. FLOPPY DISK CONTROLLER TEST
■  5. 1st FLOPPY DISK  DRIVE TEST
  SELECT : _
```

For 4. FLOPPY DISK CONTROLLER TEST.

Press (4) and (Enter) keys.

```
FLOPPY DISK CONTROLLER TEST
```

(Normal Message) : Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

For 5. 1st FLOPPY DISK DRIVE TEST.

Press 5 and Enter keys.

```
1st FLOPPY DISK DRIVE TEST
      1. TEST ALL DEVICES       ( ■ DEVICES)
      2. TEST AUTOMATICALLY     ( ■ DEVICES)
      3. EXIT
   ■  4. DRIVE TEST
      5. 720KB - MEDIA TEST
      6. 1.44MB - MEDIA TEST
   SELECT MENU :  _
```

For 4. DRIVE TEST.

Press 4 and Enter keys.

```
1st FLOPPY DISK DRIVE (1.44MFD) TEST
```

(Normal Message) : Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

For 5. 720KB - MEDIA TEST.

Press 5 and Enter keys.

NOTE) At this time insert a formattable floppy disk into the FDD.
(All data on the floppy disk will be erased.)

```
720KB - MEDIA TEST

      xxxxxxxxxxxxxxxxxxxxxx  Warning ! ! !  xxxxxxxxxxxxxxxxxxxx
            CONTENTS OF DISK WILL BE DESTROYED
      xxxxxxxxxxxxxxxxxxxxxx  Warning ! ! !  xxxxxxxxxxxxxxxxxxxx

      Insert scratch 2DD disk into 1st drive  <------  Press a key to begin formatting.
      Hit any key when ready.

      Formatting.....

      Read/Write test
Sequential seek test
Random  seek test
```

(Normal Message): Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Messages].

*Use the same procedure for 6, (1.44MB-MEDIA TEST).

9) 1 PARALLEL PORT(S) TEST.

Press 12 and Enter keys.

```
1st Parallel port test
   1. TEST ALL DEVICES    ( ■ DEVICES)
   2. TEST AUTOMATICALLY  ( ■ DEVICES)
   3. EXIT
   4. PRINT OUT TEST
   5. EXTERNAL LOOPBACK TEST
SELECT  :  _
```

For 4. PRINT OUT TEST.

Press (4) and (Enter) keys.

```
1st Parallel port test (I/O address  xxxH)
Connect printer
Hit any key when ready._
```

(Normal Message): Sample characters will be printed to the printer.

```
1st Parallel port test (I/O address 378H)
 !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmno
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnop
"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopq
#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqr
$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrs
%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrst
&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstu
'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuv
()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvw
)*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwx
```

When an error message is displayed, refer to [5.2 Error Message].

For 5. EXTERNAL LOOPBACK TEST.

Press (5) and (Enter) keys.

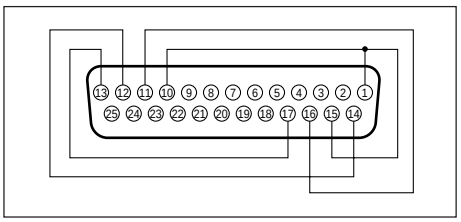
```
1st Parallel port test (I/O address xxxH)

Connect loopback plug. <------ Connect the loopback plug
                               to the parallel port.
Hit any key when ready._
```

(Normal Message): Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

Loopback Plug Wiring Information



1-10-15 Pin
11-16 Pin
12-14 Pin
13-17 Pin

10) 1 SERIAL PORT(S)

Press (13) and (Enter) keys.

```
1st SERIAL PORT TEST

      1. TEST ALL DEVICES        ( ■ DEVICES)
      2. TEST AUTOMATICALLY      ( ■ DEVICES)
      3. EXIT
   ■ 4. RS232C CONTROLLER REGISTER R/W TEST
   ■ 5. INTERNAL LOOPBACK TEST
      6. EXTERNAL LOOPBACK TEST

SELECT MENU : _
```

For 4. RS232C CONTROLLER REGISTER R/W TEST.

Press (4) and (Enter) keys.

```
1st serial port test (I/O address xxxH)
```

(Normal Message): Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

For 5. INTERNAL LOOPBACK TEST.

Press (5) and (Enter) keys.

```
1st serial port test (I/O address xxxH)
```

(Normal Message): Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

For 6. EXTERNAL LOOPBACK TEST.

Press (6) and (Enter) keys.

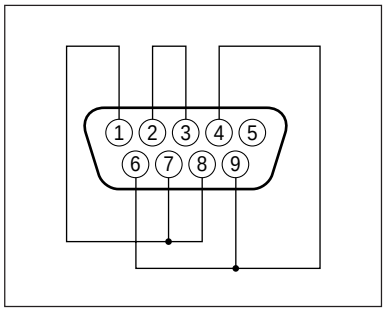
```
1st serial port test (I/O address xxxH)

Connect loopback plug. <------ Connect the loopback plug
                               to the serial port.
Hit any key when ready._
```

(Normal Message): Test done ! ! Hit any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

Loopback Plug Wiring Information



11) PCCARD CONTROLLER TEST.

Press (14) and (Enter) keys.

```
PCCARD CONTROLLER
```

(Normal Message): Test done ! ! Press any key when ready._

when an error message is displayed, refer to [5.2 Error Message].

12) INFRARED COMMUNICATION PORT TEST.

Press (15) and (Enter) keys.

```
        1. TEST ALL DEVICES       ( ■ DEVICES)
        2. TEST AUTOMATICALLY     ( ■ DEVICES)
        3. EXIT
    ■ 4. CONTROLLER REGISTER R/W TEST
    ■ 5. INTERNAL LOOPBACK TEST
SELECT MENU : _
```

For 4. CONTROLLER REGISTER R/W TEST.

Press (4) and (Enter) keys.

```
CONTROLLER REGISTER R/W TEST
Infrared port (I/O address xxxxH)
```

(Normal Message): Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

For 5. INTERNAL LOOPBACK TEST.

Press (5) and (Enter) keys.

```
INTERNAL LOOPBACK TEST
Infrared port (I/O address xxxxH)
```

(Normal Message): Test done ! ! Press any key when ready._

When an error message is displayed, refer to [5.2 Error Message].

5.2. Error Message

Test Item	Error Message		Source of Problem	Component
Main PCB Test				
CMOS RAM shutdown byte r/w test	CRAM	Shutdown byte test failed. (F10) Write data: xxxx Read data: xxxx	Main PCB	IC43
Programmable interrupt timer test	PIT	Timer #2 counter r/w failed. (F10) Write data: xx Read: xx	Main PCB	IC43
	PIT	Timer count failed. (F10) High count value expected: 00 current data: xx		
Page register r/w test	PREG	Page register r/w test failed. (byte) (F10) Write data = xx Read data = xx	Main PCB	IC43
	PREG	Page register r/w test failed. (word) (F10) Write data = xx Read data = xx		
DMA controller register r/w test	DMAC	DMA controller register r/w test failed. (F10) I/O address: xxxx Write data: xxxx Read data: xxxx	Main PCB	IC43
Keyboard controller test	KBCTRL	Keyboard controller input buffer full. (F10)	Main PCB	IC79
	KBCTRL	Keyboard line always low. (clock) (F10)		
	KBCTRL	Keyboard line always high. (clock) (F10)		
	KBCTRL	Keyboard line always low. (data) (F10)		
	KBCTRL	Keyboard line always high. (data) (F10)		
	KBCTRL	Keyboard controller output buffer empty. (F10)		
	KBCTRL	Keyboard controller self test failed. (F10) Return code: xx		
Programmable interrupt controller test	PIC	PIC #0 interrupt mask register failed. (F10) Write data: xx Read data: xx	Main PCB	IC43
	PIC	PIC #1 interrupt mask register failed. (F10) Write data: xx Read data: xx		
	PIC	PIC #0 handling error (F10) ISR status: xx		
	PIC	PIC #1 handling error (F10) ISR status: xx		
	PIC	PIC #0 no interrupt occurred. (F10)		
	PIC	PIC #1 no interrupt occurred. (F10)		
Real-time clock test	RTC	Real-time clock UIP bit always ON. (F10)	Main PCB	IC43
	RTC	Real-time clock UIP bit always OFF. (F10)		
	RTC	Real-time clock data out of range. (F10) (Second data: ss) (Minute data: mm) (Hour data: hh) (Data data: dd) (Month data: mm) (Year data: yyyy)		
RAM Test				
DRAM r/w test	DRAM	DRAM R/W test failed. (F11) Address: xxxxxxxxH Write data: xxH Read data: xxH	Main PCB	IC35,IC37, IC39,IC41, IC80~IC83
DRAM refresh test	DRAM	DRAM Refresh test failed. (F11) Address: xxxxxxxxH Write data: xxH Read data: xxH	Main PCB	IC35,IC37, IC39,IC41, IC80~IC83
DRAM address line test	DRAM	DRAM Address Line test failed. (F11) The data written into address: xxxxxxxxH can be read from address: yyyyyyyyH	Main PCB	IC35,IC37, IC39,IC41, IC80~IC83
Protect test		[xx] Protected mode error. (F11)	Main PCB	IC1,IC33

Test Item	Error Message		Source of Problem	Component
Keyboard Test				
Keyboard reset test	KEY	Keyboard failed. (F40)	Main PCB	IC43,IC79
Keyboard data test	KEY	Keyboard has been hit or broken. (F10) SCAN code : xx	Main PCB	IC79
Floppy Disk Drive Test				
Floppy disk controller test		FDC failed. (F10) Master status: n1n2 Floppy Disk Controller (FDC) master status has failed. Data bus or FDC chip has failed. (n1n2 is FDC master status listed on page 5-14.)	Main PCB	IC47
Floppy disk controller test		Init. failed. (F10) BIOS status : xx Floppy Disk Controller (FDC) initialization has failed. Data bus or FDC chips have failed. (xx is BIOS disk error status listed on page 5-14.)	Main PCB	IC47
Floppy disk drive test		Seek failed (max. track) (F30) Seek has failed. Floppy Disk Controller (FDC) cable or FDC chip has failed.	FDD	———
Floppy disk drive test		Seek failed (0 track) (F30) Seek has failed. Floppy Disk Controller (FDC) cable or FDC chip has failed.	FDD	———
Floppy disk controller test		Cannot change spindle speed of FDD motor (F10)	Main PCB	IC47
Hard Disk Drive Test				
HDC reset test		HDC reset failed. (F31)	HDD	———
HDC diagnostic test		HDC internal diagnostic failed. (F31)	HDD	———
HDD set parameter test		HDD set drive parameter failed. (F31) BIOS status: xx HDC status: xx HDC error status: xx (xx: Refer to page 5-14.)	HDD	———
HDD drive ready test		HDD drive not ready. (F31) BIOS status: xx HDC status: xx HDC error status: xx (xx: Refer to page 5-14.)	HDD	———
HDD recalibrate test		HDD recalibrate failed. (F31) BIOS status: xx HDC status: xx HDC error status: xx (xx: Refer to page 5-14.)	HDD	———
HDD seek test		HDD seek failed. (F31) BIOS status: xx HDC status: xx HDC error status: xx (xx: Refer to page 5-14.)	HDD	———
HDD seek time test		HDD seek does not complete within some period. (F31) BIOS status: xx HDC status: xx HDC error status: xx (xx: Refer to page 5-14.)	HDD	———

Test Item	Error Message	Source of Problem	Component
Serial Port Test			
Register test	RS232 Serial port failed. (F71) Interrupt ID Write: xx Read: xx RS232 Serial port failed. (F71) Divisor Write: xx Read: xx	Main PCB	IC47
Internal loopback test	RS232 Serial port data loopback failed. (F71) Line & modem status: n1n2,n3n4 (Refer to the tables of loopback line status and loopback modem status on page 5-14.) RS232 Serial port data loopback failed. (F71) Xmit: xx Recv: xx RS232 Serial port signal loopback failed. (F71) Modem status: n3n4 Expected: n3'n4' (n3n4: result by test. Refer to the table of loopback modem status on page 5-14. n3'n4': expected status.)	Main PCB	IC47
External loopback test	RS232 Serial port signal real loopback test failed. (F71) Modem status: n3n4 Expected: n3'n4' (n3n4: result by test. Refer to the table of loopback modem status on page 5-14. n3'n4': expected status.) RS232 Serial port data real loopback test failed. (F71) Line status : n1n2 (n1n2: Refer to the table of loopback line status on page 5-14.) RS232 Serial port data real loopback test failed. (F71) Xmit: xx Recv: xx RS232 Data real loopback transmit failed. (F71) Line status: n1n2 (n1n2: Refer to the table of loopback line status on page 5-14.) RS232 Data real loopback interrupt request failed. (F71) Line status: n1n2 (n1n2: Refer to the table of loopback line status on page 5-14.) RS232 Data real loopback receive failed. (F71) Line status: n1n2 (n1n2: Refer to the table of loopback line status on page 5-14.)	Main PCB	IC47 IC48
Parallel Port Test			
Printer Out Test	PPA Time -out error occurred with parallel printer. (F72) BIOS status: n1n2 Character: xx PPA I/O error occurred with parallel printer. (F72) BIOS status: n1n2 Character: xx (n1n2 is a printer BIOS error status listed on page 5-15.)	Main PCB	IC47
	PPA Paper end occurred with parallel printer. (F72) BIOS status: n1n2 Character: xx (xx is the character sent to the printer.)	Paper end	———
External Loopback test	PPA Parallel port interrupt request failed. (F72) PPA Parallel port signal real loopback test failed. (F72) Status: xx Expected: xx	Main PCB	IC47

Test Item	Error Message	Source of Problem	Component
Infrared Communication Port Test			
Controller register r/w test	Infrared port failed. (F80)	Main PCB	IC47
PC CARD Controller Test			
	PC CARD Controller is invalid. (F10) Controller status : xxH	Main PCB	IC9
Sound Test			
Sound register test	SOUND REGISTER R/W ERROR! ! (F81) SB DSP RESET ERROR (F81) MPU RESET ERROR (F81)	Main PCB	IC50
Battery Test			
	Battery Overcharged (F10) Battery Overdischarged (F10) Battery Cell balance error (F10) Battery Switching error (F10) Battery Temperature is out of range (F10) Battery Exceed maximum charging amount (F10) Battery Exceed maximum charging time (F10) Battery Serial communication error (F10) Battery Charging current does not decrease (F10) Battery No response from battery (F10) Battery Charging current error (F10) Battery Abnormal high voltage (F10) Battery Abnormal temperature (F10) Battery Low voltage after 60 minutes charged (F10) Battery No battery but voltage is deleted (F10) Battery Exceed maximum charging amount (F10) Battery Abnomal charging current (F10) Battery Abnomal CPU temperature (F10)	Main PCB	IC20

• FDC master status

Nibble	Bit	Meaning
n1	D3	1: FDC data register is ready to receive and transmit data
	D2	1: Transmit data from FDC to processor
	D1	1: Transmit in non-DMA mode
	D0	1: FDC is busy
n2	D3	
	D2	
	D1	1: Seek in drive B
	D0	1: Seek in drive A

• BIOS disk error status

Status	Meaning
80	Time out
40	Seek out
20	FDC failed
10	CRC error
0C	Bad media type
09	DMA boundary
08	DMA overrun
06	Diskette removed
04	Sector not found
03	Write protected
02	No address mark
01	Invalid command

• BIOS error status

Status	Meaning
FF	Sense status failed
E0	Error status register
CC	Write fault
BB	Undefined error
AA	Drive not ready
80	Time out
40	Seek error
20	Controller failed
11	ECC corrected data error
10	Bad CRC or ECC
0F	DMA arbitration level out of range
0E	Control data address mark detected
0D	Invalid number of sectors on format
0B	Bad cylinder
0A	Bad sector
09	DMA boundary
08	DMA overrun
07	Drive parameter error
05	Reset failed
04	Sector not found
02	No address mark
01	Invalid command

• HDC error status

Nibble	Bit	Meaning
n3	D3	1: Back block
	D2	1: Non-correctable ECC error
	D1	1:
	D0	1: Selector not found
n4	D3	1:
	D2	1: HD not ready
	D1	1: No track 00 signal
	D0	1: No address mark

• HDC status

Nibble	Bit	Meaning
n1	D3	1: HDC is busy
	D2	1: HDC is ready
	D1	1: Write fault signal from HD
	D0	1: Seek is completed
n2	D3	1: HDC requests to transmit data
	D2	1: ECC corrected data
	D1	1: Index pulse signal
	D0	1: Error found in executed instructions

• Loopback line status

Nibble	Bit	Meaning
n1	D3	1: Timing out
	D2	1: Transmit shift register (is) empty
	D1	1: Transmit-holding register (is) empty
	D0	1: Break detect
n2	D3	1: Framing error
	D2	1: Parity error
	D1	1: Overrun error
	D0	1: Data ready

• Loopback modem status

Nibble	Bit	Meaning
n3	D3	1: Carrier detect (CD)
	D2	1: Ring indicator (RING)
	D1	1: Data set ready (DSR)
	D0	1: Clear to send (CTS)
n4	D3	
	D2	
	D1	
	D0	

• Printer BIOS error status

Nibble	Bit	Meaning
n1	D3 D2 D1 D0	0: Busy 1: Acknowiedge 1: Paper end 1: Printer is selected
n2	D3 D0	1: I/O error 1: Time-out

- When an error occurs during format, verify, write and read tests for FDD, an error message is displayed in the following format of the command and error names:

(Format of Error Message)

[Command Name] failed: [Error Name] Cylinder = xx Head = xx Sector = xx

Command Name: Read
Write
Verify
Format
Read long
Write long
Command

Error Name: HDC not found (FFH)
Bad err register (E0H)
Write fault (CCH)
Undefined error (BBH)
Drive not ready (AAH)
Time-out (80H)
Seek error (40H)
FDC or HDC error (20H)
Data corrected (11H)
CRC or ECC error (10H)
Bad track (0BH)
Bad sector mark (0AH)
64 K boundary (09H)
DMA overrun (08H)
Parameter error (07H)
Reset error (05H)
No record (04H)
Write protected (03H)
No address mark (02H)
Invalid command (01H)

When there is a difference between write data and read data, the following error message is displayed:

Compare error Cylinder = xx Head = xx Sector = xx

- When an error occurs during format, write long, read long, write and read tests for HDD, an error message is displayed in the following format of command and error names:

(Format of Error Message)

[Command Name] failed: [Error Name] Cylinder = xx Head = xx Sector = xx

Command Name: Please refer to the FDD section above.
Error Name: Please refer to the FDD section above.

6. Disassembly/Reassembly

Note : Power off the computer. Do not shut down to the Suspend or hibernation mode.
Do not add peripherals while the computer is in the Suspend or hibernation mode; abnormal operation may result.
The Access Key is necessary to release security of electrical and mechanical.
Ask the customer to provide the Access Key with this product.

6.1. Removing the Battery Pack

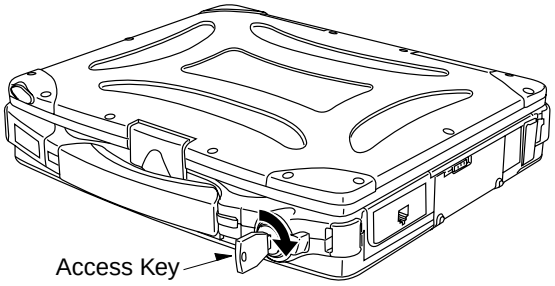


Figure 1

1. Turn the Access Key to unlock the battery pack latch.
   CAUTION: Ensure that power to the computer is OFF.

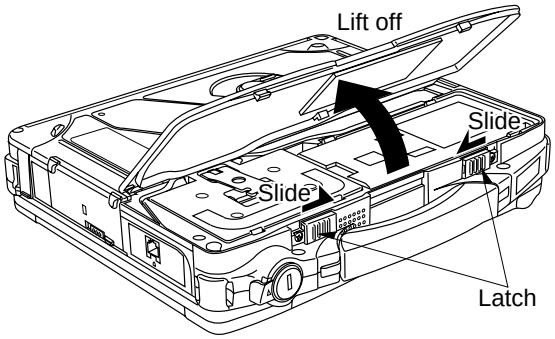


Figure 2

2. Carefully turn the main body upside down, slide the latch into the release position, and then lift off the cover for the battery and the HDD.

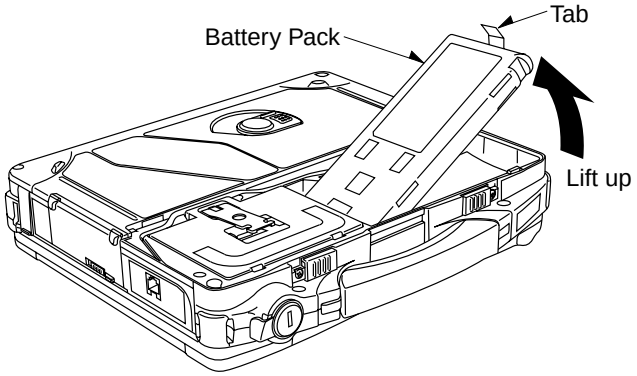


Figure 3

3. Lift up on the battery tab to remove the battery pack.

6.2. Removing the HDD Unit

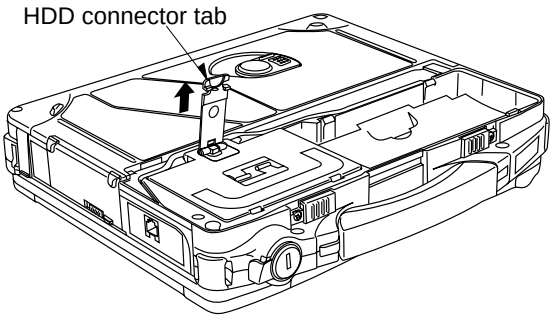


Figure 4

1. Lift up the HDD connector tab.

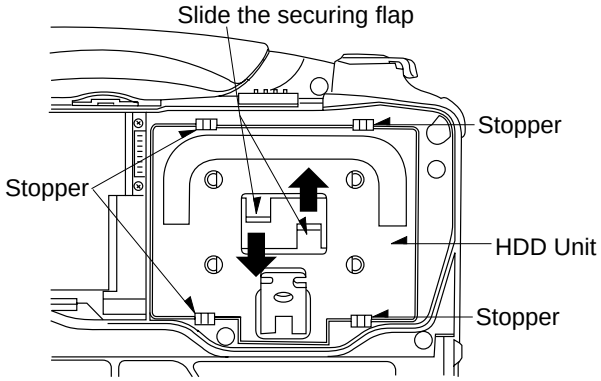


Figure 5

2. Slide the securing flap, located at the center of the HDD unit, to release the stopper.

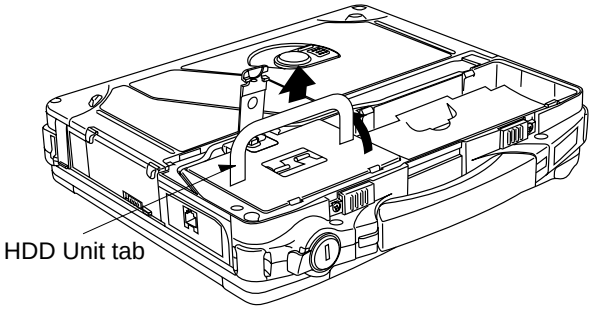


Figure 6

3. Lift up on the HDD unit tab to remove the HDD unit.

6.3. Removing the Unit from inside the Multimedia Pocket

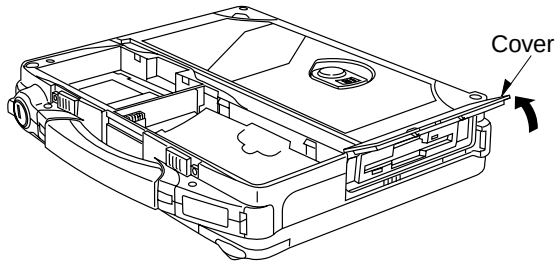


Figure 7

1. Turn the main body upside down and open the Multimedia Pocket cover.

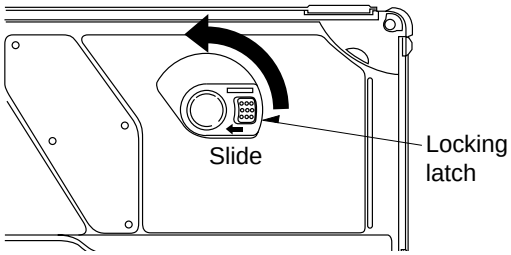


Figure 8

2. Slide the locking latch to the unlocked position, keeping it there, then turn the lever.

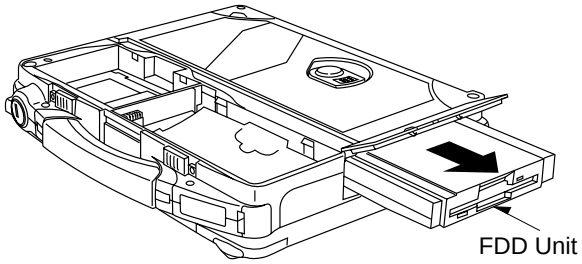


Figure 9

3. The media unit mounted in the Multimedia Pocket will then be ejected.

6.4. Removing the Keyboard

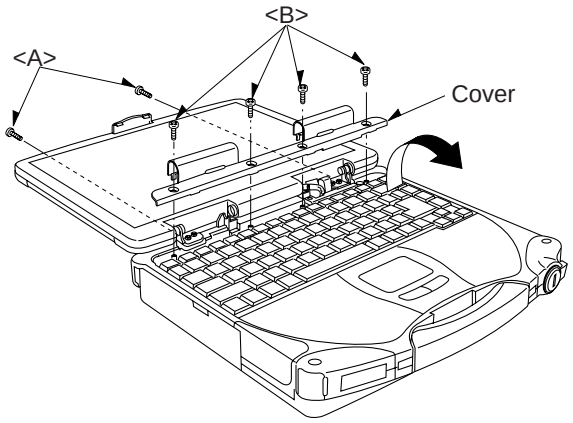


Figure 10

1. Open the connector cover at the rear of the main body and remove the two screws <A>.
   Screw <A> : DFHE5054YA
   Screw tightening torque 0.49 ± 0.05 N·m (5.0 ± 0.5 kgf·cm)
2. Remove the four screws <B>, located at the junction between the display unit and the main body.
   Screw <B> : DFHE5054YA
   Screw tightening torque 0.49 ± 0.05 N·m (5.0 ± 0.5 kgf·cm)
3. Remove the cover over the junction area.
4. Gently pull the keyboard unit up and turn it over so that it is facing upside down.

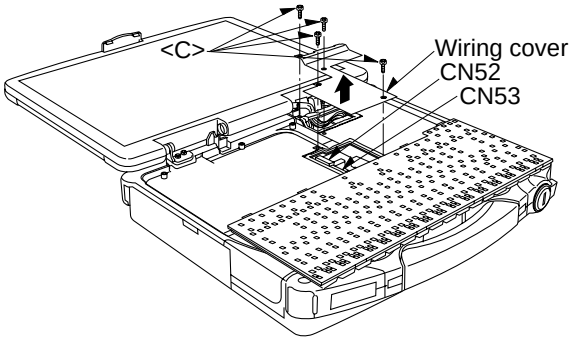


Figure 11

5. Remove the four screws <C> from the wiring cover on the backside of the keyboard.
   Screw <C> : DFHE5025YA
   Screw tightening torque 0.19 ± 0.02 N·m (2.0 ± 0.2 kgf·cm)
6. Remove the wiring cover.
7. Disconnect the two connectors, CN52 andCN 53, which connect the main PCB inside the main body, to the keyboard unit.

6.5. Removing the Display Unit

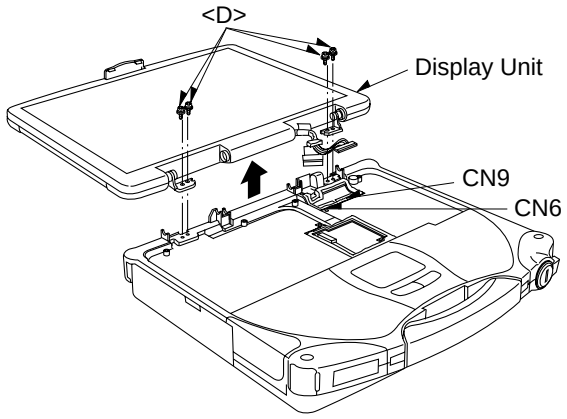


Figure 12

1. Disconnect the two connectors, CN9 and CN6, which connect the main PCB inside the main body, to the display unit.
2. Remove the four screws <D>, located at the junction between the display unit and the main body.
   Screw <D> : DXYN3 + J8FZL
   Screw tightening torque 0.735 ± 0.049 N·m (7.5 ± 0.5 kgf·cm)

6.6. Removing the RAM Card

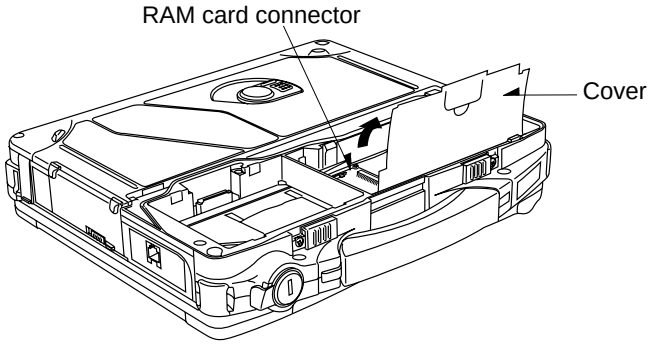


Figure 13

1. Lift up the isolation cover from underneath the battery unit.
2. To remove the RAM card, pull it out from the RAM card connector.

6.7. Removing the Lower Casing and the Handle

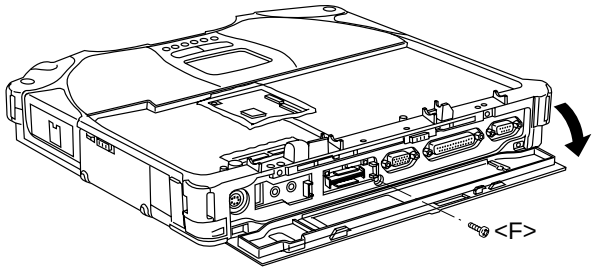


Figure 14

1. Open the connector cover at the rear of the main body and remove the single screw <F>.
   Screw <F> : DFHE5054YA
   Screw tightening torque 0.49 ± 0.049 N·m (5.0 ± 0.5 kgf·cm)

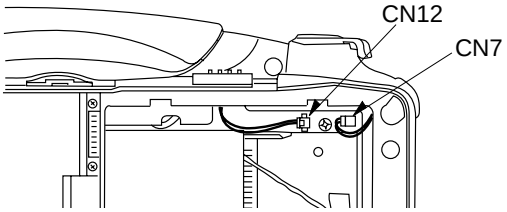


Figure 15

2. Turn the main body upside down and remove both the speaker cable connector CN12 and the switch cable connector CN7, which run underneath the HDD unit enclosure.

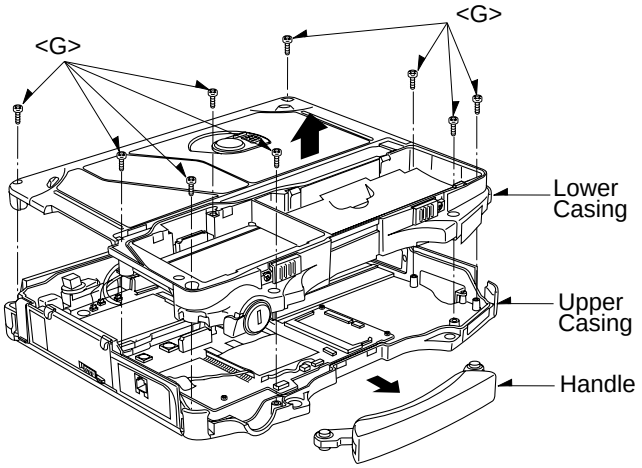


Figure 16

3. Remove the nine screws <G>, which connect the lower casing to the upper casing.
   Screw <G> : XYN3 + J10FN
   Screw tightening torque 0.89 ± 0.05 N·m (9.0 ± 0.5 kgf·cm)

6.8. Removing the I/O Board

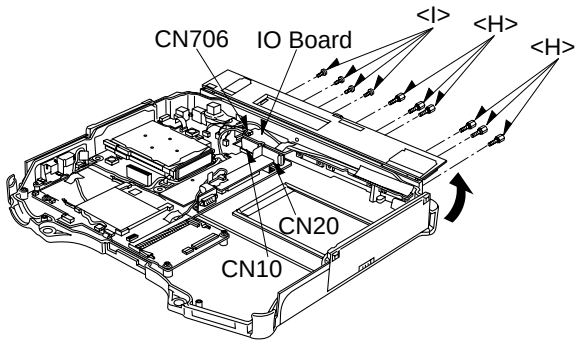


Figure 17

1. Remove the three connectors, CN706, CN10 and CN20, to allow the I/O board to be separated from the main PCB.
2. Remove the four securing screws <I> and the six securing screws <H> from the rear connector cover.
   Screw <I> : DFHE5104ZA
   Screw tightening torque 0.196 ± 0.0098 N·m (2.0 ± 0.1 kgf·cm)

   Screw <H> : DFHE5058ZA
   Screw tightening torque 0.49 ± 0.049 N·m (5.0 ± 0.5 kgf·cm)

6.9. Removing the Modem Board

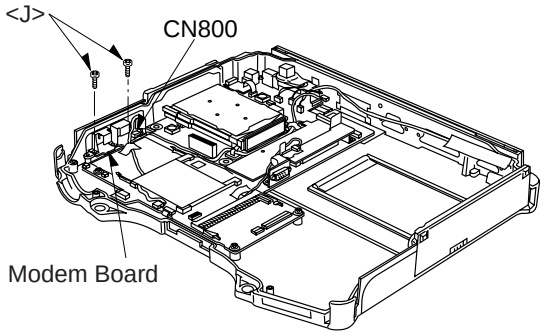


Figure 18

1. Remove connector CN800, to allow the modem board to be separated from the main PCB.
2. Remove the two securing screws <J>.
   Screw <J> : XTB2 + 6GFZ
   Screw tightening torque 0.19 ± 0.02 N·m (2.0 ± 0.2 kgf·cm)

6.10. Removing the MP Connection Unit

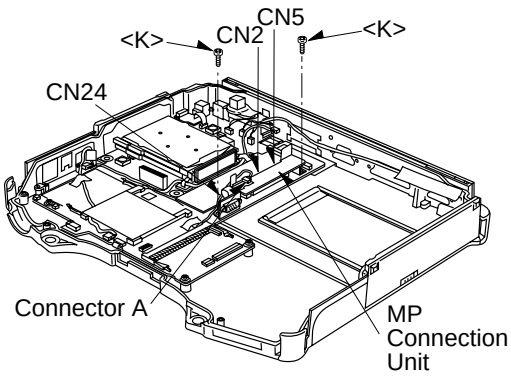


Figure 19

1. Remove the Connector A to allow the MP Connection Unit to be separated from the Modem Cable.
2. Remove the three connectors, CN24, CN2 and CN5, to allow the MP Connection Unit to be separated from the main PCB.
3. Remove the two securing screws <K>.
   Screw <K> : DFHE5092ZA
   Screw tightening torque 0.49 ± 0.05 N·m (5.0 ± 0.5 kgf·cm)

6.11. Removing the Main PCB

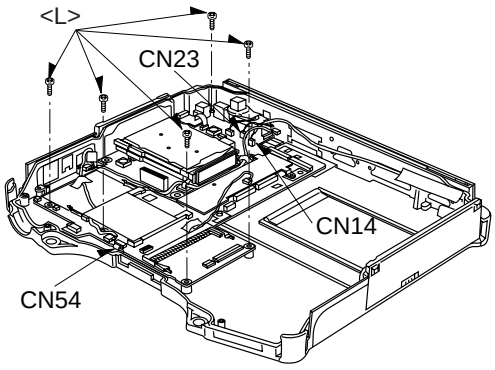


Figure 20

1. Remove the microphone cable from connector CN23.
2. Remove the reed switch cable from connector CN14.
3. Remove the touch pad cable from connector CN54.
4. Remove the five screws <L> that secure the main PCB.
   Screw <L> : DFHE5092ZA
   Screw tightening torque 0.49 ± 0.05 N·m (5.0 ± 0.5 kgf·cm)

6.12. Removing the Touch Pad Unit

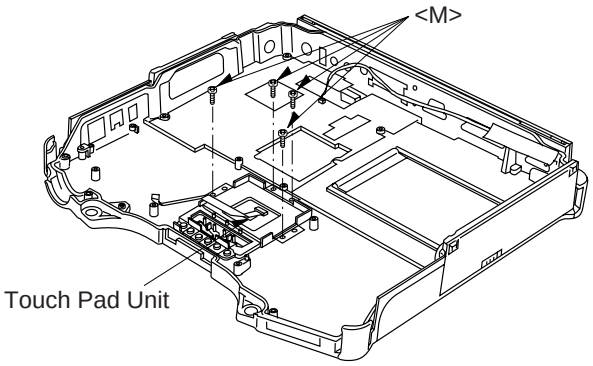


Figure 21

Remove the four screws <M> that secure the touch pad unit.

Screw <M> : DFHE5054YA

Screw tightening torque 0.49 ± 0.05 N·m (5.0 ± 0.5 kgf·cm)

6.13. Removing the PCMCIA CN (PC Card Slot)

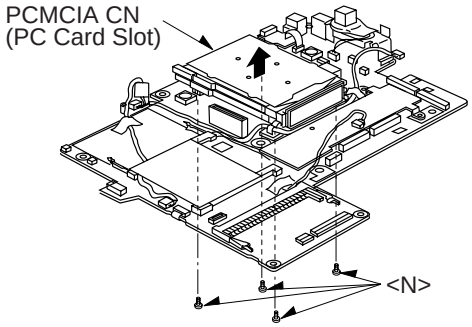


Figure 22

Remove the four screws <N>, which connect the PCMCIA unit to the main PCB.

Screw <N> : DFHE5025XA

Screw tightening torque 0.19 ± 0.02 N·m (2.0 ± 0.2 kgf·cm)

6.14. Removing RTC Battery

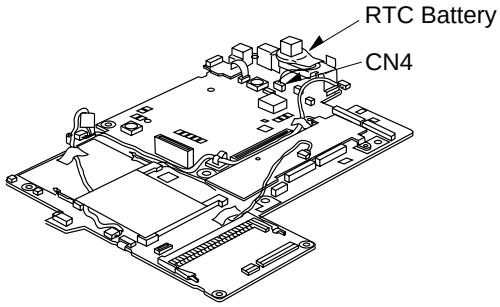


Figure 23

1. Remove the connector CN4, which connects RTC battery to the main PCB.
2. Carefully peel off the adhesive tape, which adheres to the hinge.

CAUTION: Ensure that the cushion, which secures the battery, is not damaged.

6.15. Removing the INVERTER, the Touch Screen PCB and TS13 PCB

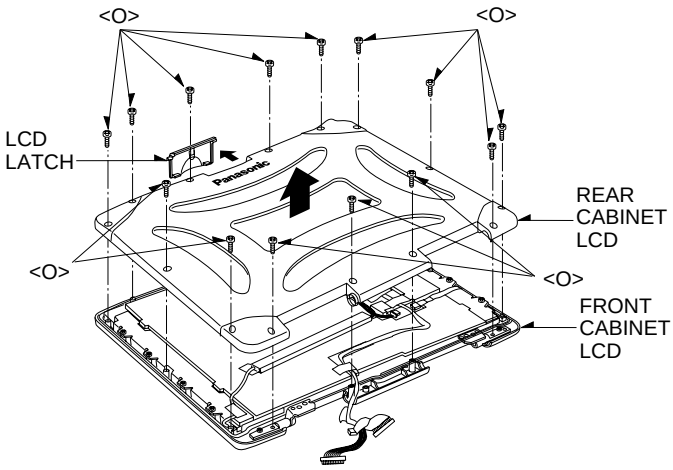


Figure 24

1. Remove the fourteen screws <O> from the REAR CABINET LCD.
   Screw <O> : DXHM0022ZA
   Screw tightening torque 0.55 ± 0.051 N·m (5.5 ± 0.5 kgf·cm)
2. Lift off the REAR CABINET LCD for the FRONT CABINET LCD.

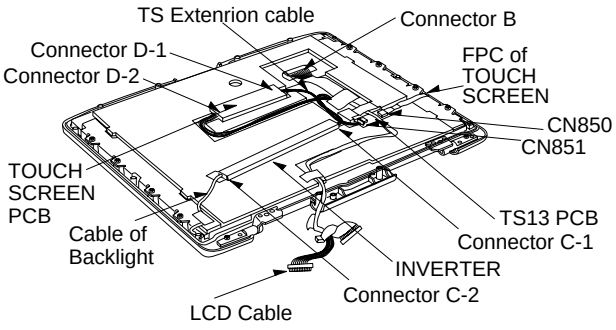


Figure 25

3. Remove the LCD cable from connector C-1.
4. Remove the Cable of Backlight from connector C-2.
5. Remove the INVERTER.
6. Remove the LCD cable from connector B.
7. Remove the TS Extention cable from connector CN851.
8. Remove the FPC of Touch Screen from connector C850.
9. Remove the TS13 PCB.
10. Remove the LCD cable from connector D-2.
11. Remove the TS Extention cable from connector D-1.
12. Remove the Touch Screen PCB.

6.16. Removing the LCD and the Touch Screen

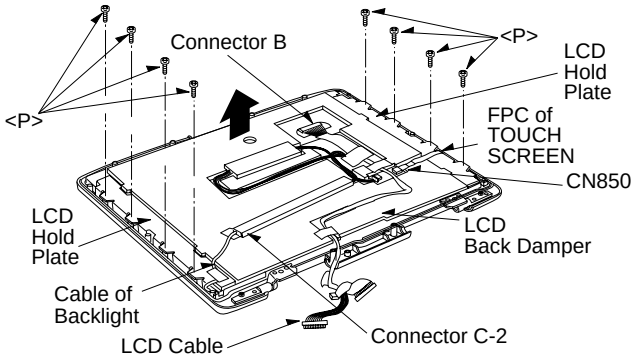


Figure 26

1. Remove the LCD cable from connector B.
2. Remove the Cable of Backlight from connector C-2.
3. Remove the FPC of Touch Screen from connector C850.
4. Remove the eight screws <P> from the LCD Hold Plates.
   Screw <P> : DFHE5093ZA
   Screw tightening torque 0.55 ± 0.051 N·m (5.5 ± 0.5 kgf·cm)
5. Lift off the LCD Back Damper for the LCD Front CAB

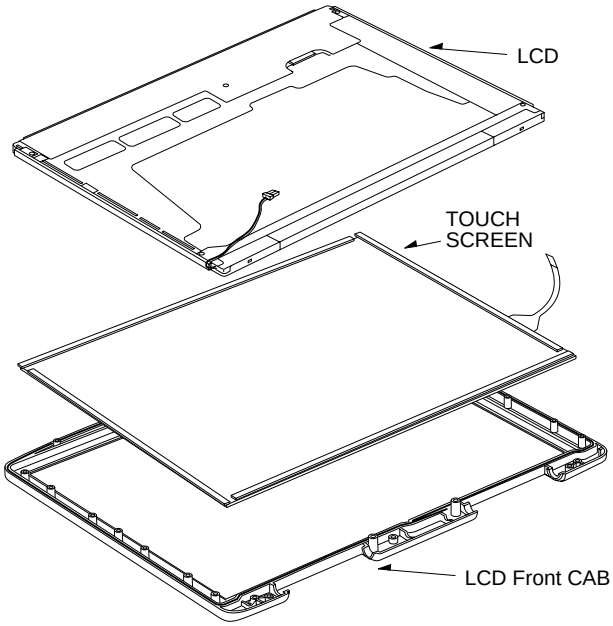
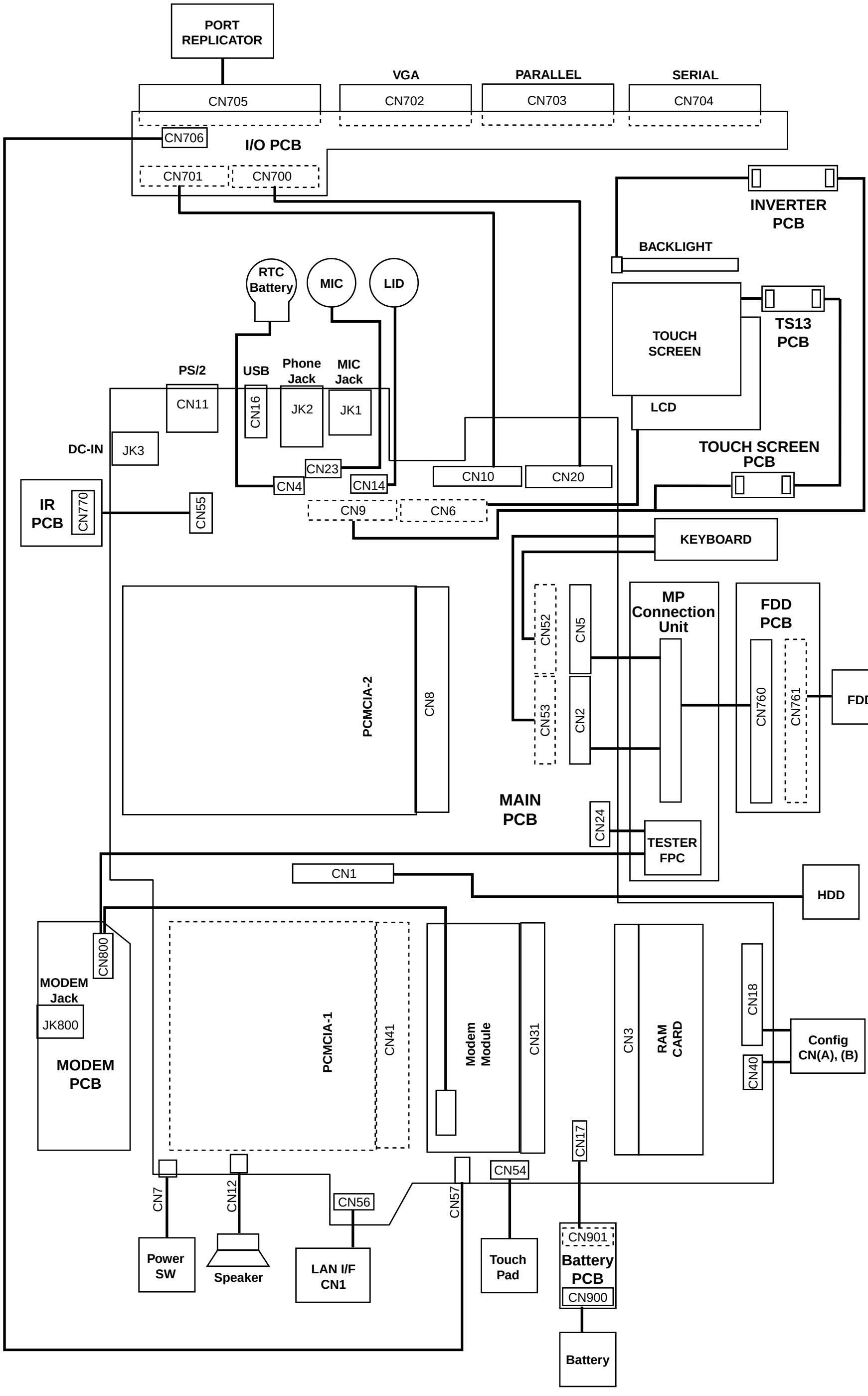


Figure 27

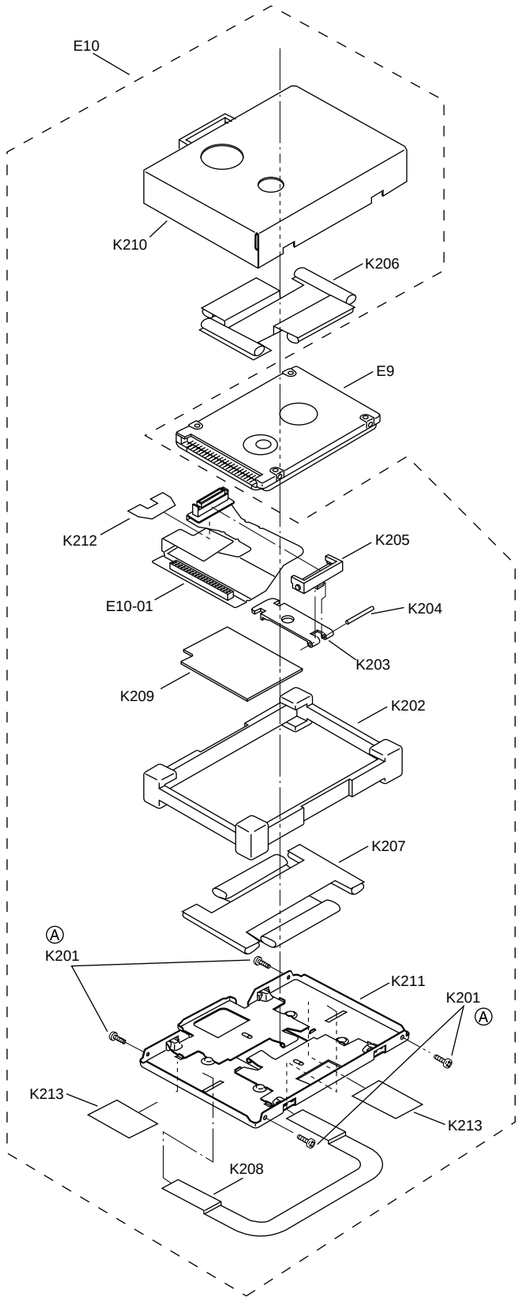
6. Lift off the LCD for the LCD Front CAB.
7. Lift off the TOUCH SCREEN for the LCD Front CAB.

7. Wiring Connection Diagram

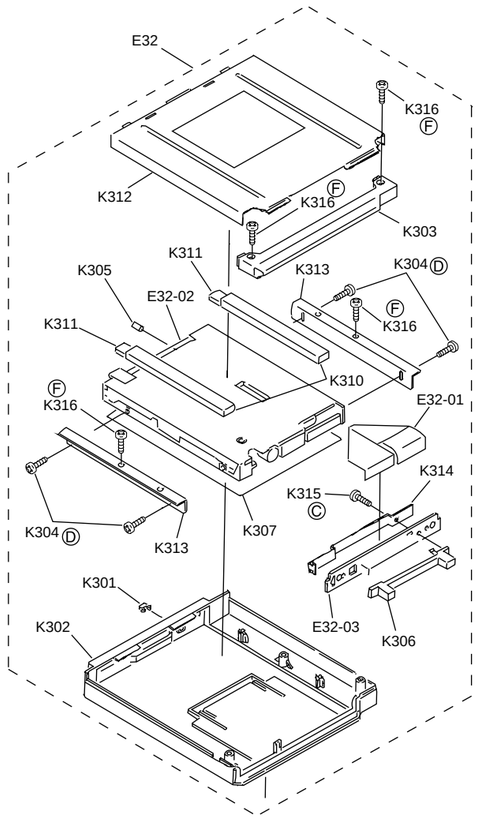


8. Exploded Views

HDD



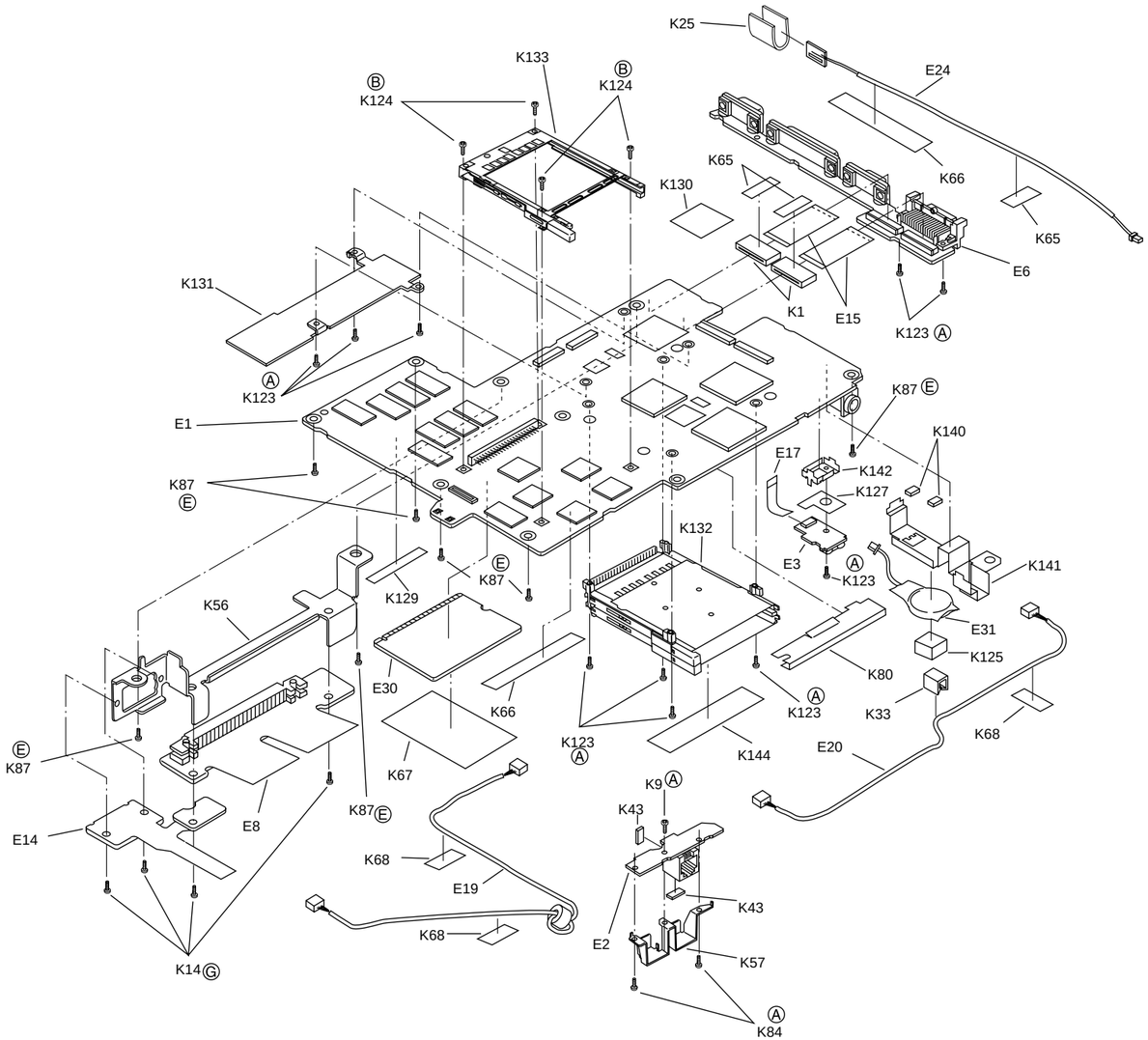
FDD



Screw tightening torque

- Ⓐ 0.19 ± 0.02 N·m (2.0 ± 0.2 kgf·cm)
- Ⓑ 0.12 ± 0.02 N·m (1.3 ± 0.2 kgf·cm)
- Ⓒ 0.216 ± 0.0196 N·m (2.2 ± 0.2 kgf·cm)
- Ⓓ 0.314 ± 0.0196 N·m (3.2 ± 0.2 kgf·cm)
- Ⓔ 0.49 ± 0.05 N·m (5.0 ± 0.5 kgf·cm)
- Ⓕ 0.441 ± 0.049 N·m (4.5 ± 0.5 kgf·cm)
- Ⓖ 0.11 ± 0.02 N·m (1.2 ± 0.2 kgf·cm)

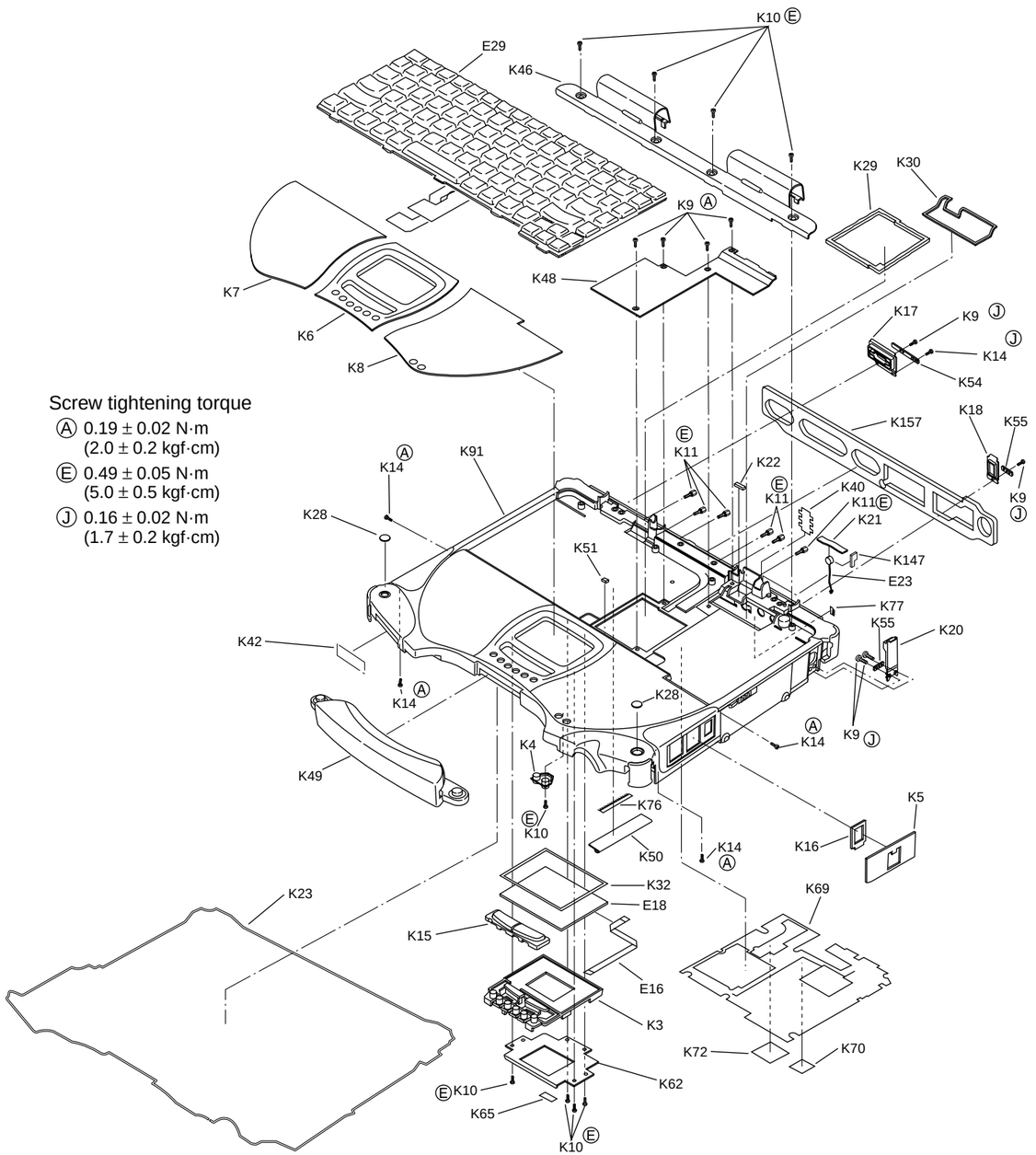
PCB



TOP CABINET

Screw tightening torque

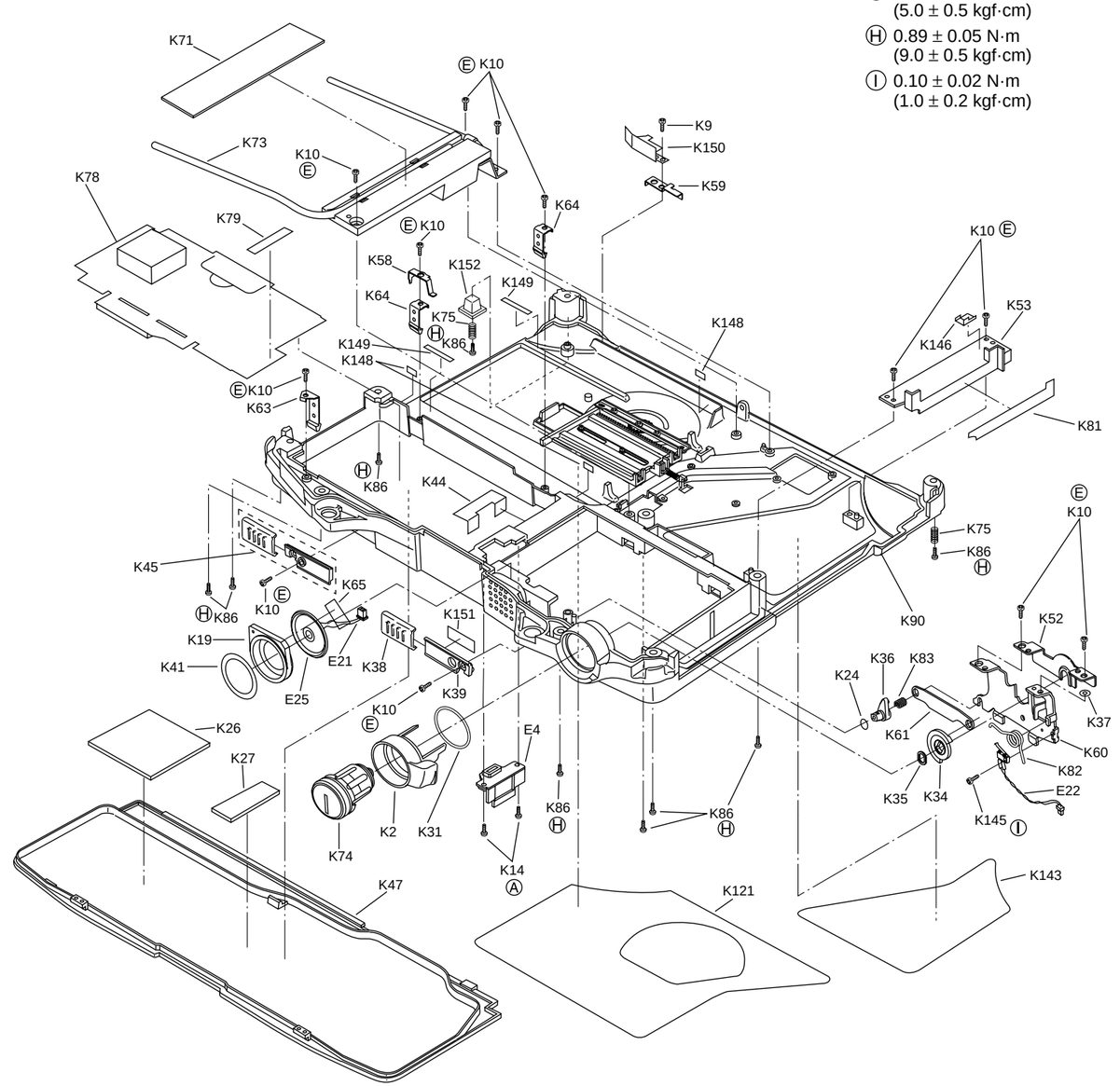
- Ⓐ 0.19 ± 0.02 N·m (2.0 ± 0.2 kgf·cm)
- Ⓔ 0.49 ± 0.05 N·m (5.0 ± 0.5 kgf·cm)
- Ⓙ 0.16 ± 0.02 N·m (1.7 ± 0.2 kgf·cm)



BOTTOM CABINET

Screw tightening torque

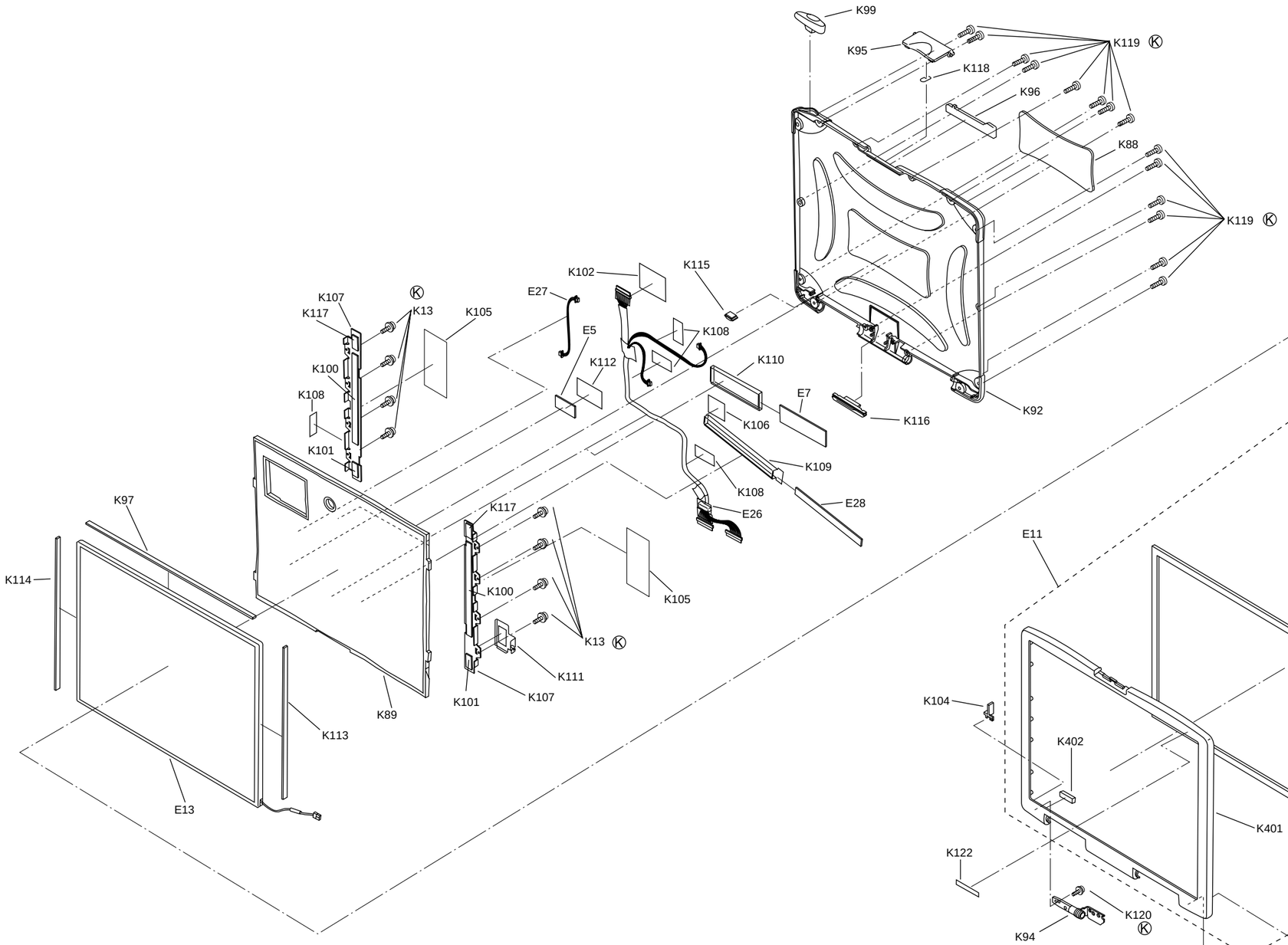
- Ⓐ 0.19 ± 0.02 N·m (2.0 ± 0.2 kgf·cm)
- Ⓔ 0.49 ± 0.05 N·m (5.0 ± 0.5 kgf·cm)
- Ⓗ 0.89 ± 0.05 N·m (9.0 ± 0.5 kgf·cm)
- Ⓘ 0.10 ± 0.02 N·m (1.0 ± 0.2 kgf·cm)

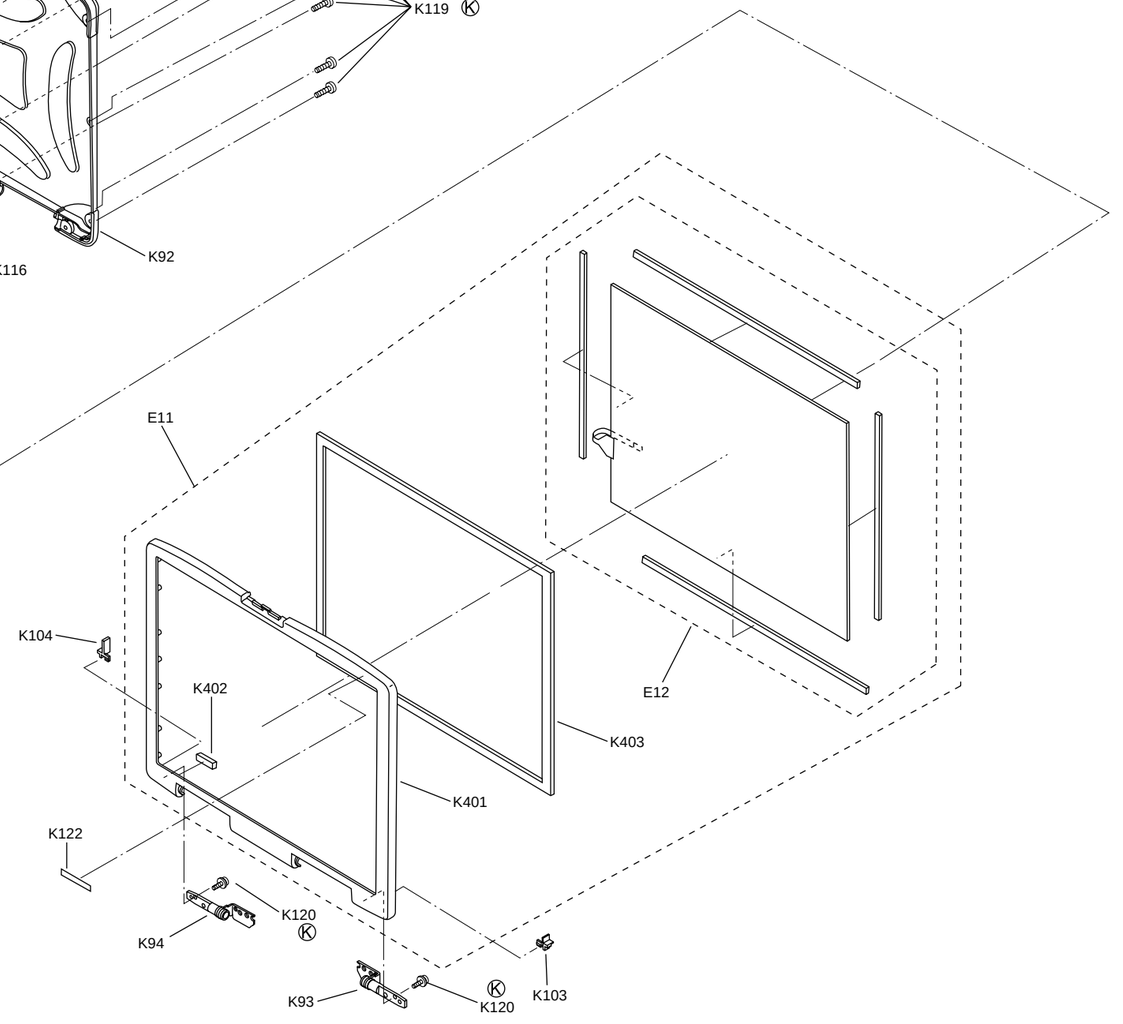


LCD

Screw tightening torque

Ⓚ 0.55 ± 0.051 N·m
(5.5 ± 0.5 kgf·cm)





9. Replacement Parts List

(Main Block Unit, Mechanical Parts, Accessories and Packing Materrial)

Note : **Important Safety Notice**
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

REF. NO and Area		PART NO	DESCRIPTION	Q'TY
MAIN BLOCK UNITS				
E1		DL3U11117AAA	PCB, MAIN	1
E2		DL3U21117AAA	PCB, RJ	1
E3		DL3U31117AAA	PCB, IR	1
E4		DL3U41117AAA	PCB, BATT	1
E5		DL3U51117AAA	PCB, TS13	1
E6		DL3U11131AAA	PCB, I/O	1
E7		N5BDBA000001	PCB, TOUCH SCREEN	1
E8		DL3UP1118AAA	FPC UNIT, MP	1
E9		N3CABPD00002	HDD, 20GB, 2.5"	1
E10		DFWV99A0050	HDD MOUNTING KIT	1
E10-01		DL3UP1120AAA	FPC UNIT, HDD	1
E11		DFWV80A0281	ASS'Y LCD FRONT CABINET / TOUCH SCREEN PANEL	1
E12		DFWV84A0190	TOUCH SCREEN PANEL KIT	1
E13		DL3DE0149AAA	LCD	1
E14		DL3UP1123AAA	FPC UNIT, TESTER	1
E15		DFJE40N027BB	FFC, I/O CONNECTION	2
E16		DFJE9137ZA	FFC, TOUCH PAD	1
E17		DFJE10M016BB	FFC, IrDA	1
E18		DFJL0033ZA	TOUCH PAD	1
E19		DFJS659YA	CABLE, INNER, RJ11	1
E20		DFJS660ZA	CABLE, INNER, RJ45	1
E21		DFJS669ZA	CABLE, SPEAKER	1
E22		DFSE058ZB	POWER SWITCH(WIRED)	1
E23		DFSE059ZA	MICROPHONE(WIRED)	1
E24		DFSE060ZA	LEAD SWITCH(WIRED)	1
E25		L0AA02A00017	SPEAKER	1
E26		DFJS657ZA	CABLE, LCD	1
E27		DFJS658ZA	CABLE, TS EXTENTION	1
E28	⚠	DFWP0119YA	INVERTER	1
E29 (M)		DFSX1A87WBTR	KEYBOARD	1
E29 (E)		DFSX1A72UATG	KEYBOARD	1
E29 (G)		DFSX1A73UATG	KEYBOARD	1
E29 (F)		DFSX1A74UATG	KEYBOARD	1
E29 (T)		DFSX1A75UATG	KEYBOARD	1
E29 (S)		DFSX1A76UATG	KEYBOARD	1
E29 (P)		DFSX1A95UATG	KEYBOARD	1
E30		DFWP0125WA	MODEM MODULE	1
E31		CR2032/S5J	BATTERY, COIN	1
E32		DFWV44K0066	ASS'Y, FDD	1
E32-01		DFJE9077ZA	PCB, RELAY, FDD	1
E32-02	⚠	DFJG065ZA-T	FDD	1
E32-03		DL3U21131AAA	PCB, FDD	1
ACCESSORIES				
A1 (M)	⚠	DFQX5239ZC	OPERATING INSTRUCTION MANUAL	1
A1 (E, G, F, T, S, P)	⚠	* OPERATING INSTRUCTION MANUAL		1
A2	⚠	CF-AA1639AM1	AC ADAPTER	1
A3		DFHR9039ZA-0	STYLUS	1
A4		DFHS9010ZA	CLOTH, LCD	1
A5		DFJS535ZA	MODEM CABLE	1
A6		DFKH1012ZA-0	STRAP	1
A7 (M)	⚠	DFJA0047ZAKK	AC CABLE	1
A7 (E)	⚠	DFJA0042ZAKK	AC CABLE	1
A7 (G, F, S, T)	⚠	DFJA0044ZAKK	AC CABLE	1
A8	⚠	N4HUNSA00002	BATTERY PACK, LITHIUM	1

Note : About the parts which written " * " above, please order to Computer Products Europe (CPE) written below.
Matsushita Electric (U.K.) Ltd. Computer Products Europe (CPE) TEL : +44-1222-736060 FAX : +44-1222-735500

REF. NO and Area	PART NO	DESCRIPTION	Q'TY
PACKING MATERIAL			
P1	DFPE0611ZA	HOLDER, MANUAL	1
P2	DFPK1063ZA	CASE	1
P3	DFPN0754ZA	CUSHION, PACKAGE	1
MECHANICAL			
K201	DFHE5025XA	SCREW	4
K202	DFHG1415ZA	DAMPER(A), HDD	1
K203	DFHG1462ZA	TAB(A), HDD	1
K204	DFHM0229ZA	SHAFT, HDD CONNECTOR	1
K205	DFHR5851ZA	CONNECTOR GUIDE, HDD	1
K206	DFHR7960YB	DAMPER(B), HDD	1
K207	DFHR7960ZB	DAMPER(C), HDD	1
K208	DFHR7961ZA	TAB(B), HDD	1
K209	DFMC0686ZA	INSLATION SHEET, HDD	1
K210	DFMD2133YA	HOLDER, HDD	1
K211	DFMD9071YA	HDD COVER,	1
K212	DFMX0909ZA	FPC SHEET, HDD	1
K213	DFQT6223ZA	HDD SHEET	1
K301	DFGL0018ZC-3	LENS, FDD	1.1
K302	DFGX0178RA-0	CABINET, FDD	1
K303	DFGX0179XA-0	BACK PANEL, FDD	1
K304	DFHE5076YA	SCREW	4
K305	DFHR4050ZA	TUBE, LED	1
K306	DFHR5440YA	GUIDE, FDD CONNECTOR	1
K307	DFHR7490ZB	SHEET, FDD	1
K308	DFHR8295ZB	LS DAMPER, UNDER-1	1
K309	DFHR8296ZA	LS DAMPER, UNDER-2	2
K310	DFHR8297ZB	DAMPER, FDD	2
K311	DFMC0407ZA	CUSION, CONDUCTIVE, FDD	2
K312	DFMD7339ZA	CHASIS, FDD	1
K313	DFMD7340ZA	CLAMP, FDD	2
K314	DFMD7445YA	CLAMP, FDD CONNCTOR, PCB	1
K315	XTB2+6GFZ	SCREW	1
K316	XTB26+8GFZ	SCREW	4
K401	DFKF8133ZA-1	FRONT CAB LCD	1
K402	DFHE0418ZA	LID MAGNET	1
K403	DFHG1427ZA	SHEET, TS CUSHION	1
K1	83H6877	FERRITE CORE	2
K2	DFBE0010ZA-0	RING, POWER SW	1
K3	DFGL0096ZB-0	LENS(A), LED	1
K4	DFGL0097ZA-0	LENS(B), LED	1
K5	DFGX0267ZA-0	COVER PLATE, MODEM	1
K6	DFGX0289ZA-0	COVER, PALM TOP, MID	1
K7	DFGX0290ZA-0	COVER, PALM TOP, L	1
K8	DFGX0291ZA-0	COVER, PALM TOP, R	1
K9	DFHE5025YA	SCREW	10
K10	DFHE5054YA	SCREW	24
K11	DFHE5058ZA	SCREW	6
K12	DFHE5090ZA	SCREW	1
K13	DFHE5093ZA	SCREW	8
K14	DFHE5104ZA	SCREW	15
K15	DFHG1131ZA	RUBBER, WATERPROOF, T/PAD BUTTONS	1
K16	DFHG1407ZA	PACKING, WATERPROOF, RJ11	1
K17	DFHG1423YA-0	COVER, SERIAL PORT	1
K18	DFHG1424WA-0	COVER, USB PORT	1
K19	DFHG1433ZA	CUSHION, SPEAKER	1
K20	DFHG1455XA-0	COVER, DC-IN	1
K21	DFHG1463ZA	CUSHION, MICROPHONE	1
K22	DFHG1464ZA	PACKING, WATERPROOF, LCD CABLE	2

REF. NO and Area	PART NO	DESCRIPTION	Q'TY
K23	DFHG1465ZA	PACKING, WATERPROOF, BODY	1
K24	DFHG1466ZA	O-RING, LOCK LEVER	1
K25	DFHG1467ZA	CUSHION, LEAD SWITCH	1
K26	DFHG808ZB	CUSHION A, BATTERY	1
K27	DFHR7985ZA	CUSHION B, BATTERY	1
K28	DFHG809ZA	RUBBER, LCD STOP	2
K29	DFHG812ZA	PACKING, WATERPROOF, KEYBOARD	1
K30	DFHG813ZA	PACKING, WATERPROOF, LCD	1
K31	DFHG814ZB	PACKINGRING, WATERPROOF, POWER SW	1
K32	DFHG815YA	PACKING, WATERPROOF, TOUCH PAD	1
K33	DFHR5412ZA	LEAD CLAMPER	1
K34	DFDG5523ZA	LOCK LEVER	1
K35	DFHR4074ZA	LOCK LEVER SPACER	1
K36	DFHR5853ZA	LOCK LEVER, HDD LID	1
K37	DFHE6013ZA	LOCK STOPPER ANGLE SPACER	1
K38	DFHR5861ZB-0	KNOB, R, HDD LID	1
K39	DFHR5862ZA-0	LOCK GUIDE, R, HDD LID	1
K40	DFHR7659ZA	SHEET, WATERPROOF, MICROPHONE	1
K41	DFHR7939ZA	SHEET, SPEAKER NET	1
K42	DFHR7940ZA	SHEET, SW COVER, WM	1
K43	DFHR7942YA	SHEET, RJ11	1
K44	DFHR7971ZA	SPACER, BATTERY	1
K45	DFHR9043ZA	HDD LID KNOB	1
K46	DFKE0585YA-0	COVER, HINGE	1
K47	DFKE0586ZA-0	LID, HDD&BATTERY	1
K48	DFKE9044ZA-0	WATERPROOF COVER, KEYBOARD	1
K49	DFKH1011ZA-0	HANDLE	1
K50	DFMC0406XA	GASKET, MP	1
K51	DFMC0684ZA	GASKET, KB	1
K52	DFMD1144YA	ANGLE, LOCK STOPPER	1
K53	DFMD1145ZA	ANGLE, PCMCIA	1
K54	DFMD4032ZA	PLATE, COVER, SERIAL PORT	1
K55	DFMD4033ZA	PLATE, COVER.DC-IN/USB PORT	2
K56	DFMD7744ZA	ANGLE, MP FPC	1
K57	DFMD7745ZA	ANGLE, MODEM CONNECTOR	1
K58	DFMD7747ZA	ANGLE-A, HEAT PIPE	1
K59	DFMD7748ZA	ANGLE-B, HEAT PIPE	1
K60	DFMD7749ZB	ANGLE, LOCK BACK	1
K61	DFMD7750YA	CRANK ARM, LOCK	1
K62	DFMD7753YA	HOLDER, LED LENS	1
K63	DFMD7756ZA	ANGLE-A, BATTERY HOOK	1
K64	DFMD7757ZA	ANGLE-B, BATTERY HOOK	2
K65	DFMX0383WA	SHEET, INSULATING	5
K66 ⚠	DFMX0772ZA	SHEET, INSULATING	2
K67	DFMX0900ZA	SHEET, INSULATING	1
K68	DFMX0903ZA	TAPE	4
K69	DFMX0905ZA	SHEET, INSULATING	1
K70	DFMY0275ZA	RUBBER1, HEAT TRANSFER, CPU	1
K71	DFMY0276ZA	RUBBER, HEAT PIPE	1
K72	DFMY0277ZA	RUBBER, HEAT VGA	1
K73	DFMY9014ZA	HEAT PIPE	1
K74	DFSK906ZA	LOCK UNIT	1
K75	DFUQ0081ZA	SPRING	2
K76	DFUS0279ZA	GROUND BOARD SPRING-A	1
K77	DFUS0280ZA	GROUND BOARD SPRING-B	1
K78	DFUV0066ZA	COVER, DIMM	1
K79	DFHR7976ZA	DIMM COVER SPACER	1
K80	DFUV0067ZA	COVER, TOP, PCMCIA	1
K81	DFUV0068ZA	COVER, BOTTOM, PCMCIA	1
K82	DFUW0109ZA	SPRING, POWER SWITCH	1
K83	DFUW0110ZA	SPRING, LOCK LEVER	1
K84	XTB2+6GFZ	SCREW	2

REF. NO and Area	PART NO	DESCRIPTION	Q'TY
K85	XYN26+J5FZ	SCREW	6
K86	XYN3+J10FN	SCREW	9
K87	DFHE5092ZA	SCREW(M3.0)	7
K88	DFGB0087ZA-0	BADGE, TOUGH BOOK	1
K89	DFHG1426YB	DAMPER, LCD BACK	1
K90	DFKF8134YA-0	BOTTOM CABINET	1
K91	DFKM8140YA-0	TOP CABINET	1
K92	DFKM8141ZA-1	REAR CABINET, LCD	1
K93	DFBH1117ZA	HINGE L	1
K94	DFBH1118ZA	HINGE R	1
K95	DFBS9002ZA-0	LCD LATCH	1
K96	DFGB0070ZA-1	BADGE, PANA	1
K97	DFHG1319ZA	DAMPER, LCD SIDE B	1
K98	DFMC0685ZA	SHEET, CONDUCTIVE, LCD	1
K99	DFHG1432ZB-0	RUBBER, ANTENNA WATERPROOF	1
K100	DFHG1470YA	DAMPER, LCD HINGE A	2
K101	DFHG1471YA	DAMPER, LCD HINGE B	2
K102	DFHP7093ZA	SHEET, CONNECT FPC	1
K103	DFHR5859ZA	DROP HOLDER, LCD A	1
K104	DFHR5860ZA	DROP HOLDER, LCD B	1
K105	DFHR7973ZA	DAMPER, TAPE BACK	2
K106	DFHR7974ZA	SHEET, INV HOLD	1
K107	DFMD7754ZA	PLATE, LCD HOLD	2
K108	DFMX0383ZA	COVER, INSULATING	6
K109	DFMX0868ZB	COVER, INSULATING, INV	1
K110	DFMX0869YB	COVER, INSULATING, TS	1
K111	DFMX0884ZA	CABLE GUIDE, INV	1
K112	DFMX0906ZA	COVER, TS EXTENTION	1
K113	DFHG1361ZA	DAMPER, LCD SIDE C	1
K114	DFHG1373ZA	DAMPER, LCD SIDE D	1
K115	DFHG1420ZA	RUBBER, ANTENNA DRAINAGE	1
K116	DFHG1422ZA	RUBBER, HEAT PIPE WATERPROOF	1
K117	DFMY0278ZA	SHEET, RADIAT LCD	2
K118	DFUW0095ZB	SPRING, LATCH	1
K119	DXHM0022ZA	SCREW	14
K120	XYN26+J8FNL	SCREW	2
K121 (M) ⚠	DFGT0824ZA	RATING LABEL	1
K121 (E, G, F, S, T, P) ⚠	DFGT0838ZA	RATING LABEL	1
K122	DFQT9664ZA-1	SEAL, TOUGH BOOK	1
K123	DFHE5025XA	SCREW	10
K124	DFHE5119ZA	SCREW	4
K125	DFHR7955ZA	CUSHION, BATT COIN	1
K126	DFMX0383WA	SHEET, INSULATING	2
K127	DFMX0893ZA	SHEET, INSURATION, IrDA	1
K128	DFMX0902ZA	SHEET, RADIAT CPU	1
K129	DFMX0904ZA	SHEET, CONNECT DIMM	1
K130	DFMY0275ZA	RUBBER, HEAT CPU 1	1
K131	DFMY3104ZA	ANGLE, CPU	1
K132	K1NBD6G00002	CONNECTOR, PCMCIA	1
K133	K1YY68000006	CONNECTOR, PCMCIA	1
K134	DFHE5118ZA	SCREW	2
K135	DFJP083XA100	CONNECTOR	1
K136	DFJS502ZA044	CONNECTOR	1
K137	K1KB50A00094	CONNECTOR	1
K138	DFJP02C75YAJ	CONNECTOR	1
K139	DFJP237ZA015	CONNECTOR	1
K140	DFHE0450ZA	GASKET	2
K141	DFMD7743ZA	ANGLE, JACK	1
K142	DFMD7767ZA	PLATE, IrDA	1
K143	DFGT0823ZA	SHUT HEAT SHEET	1
K144	DFMC0689ZA	Conductive cloth, PCMCIA	1
K145	DXSN2+5L	SCREW	1

REF. NO and Area	PART NO	DESCRIPTION	Q'TY
K146	DFMC0683ZA	GASKET	1
K147	DFHR7986ZA	MICROPHONE SPACER	1
K148	DFHR7981ZA	MP GUIDE SPACER A	3
K149	DFHR7982ZA	MP GUIDE SPACER B	2
K150	DFMD7778ZA	MP GUIDE ANGLE	1
K151	DFHR7978ZA	SPACER R	1
K152	DFKE0625ZB-0	REINFORCEMENT PART	1
K153	DFMC0613ZA	CONDUCTIVE CLOTH	1
K154	DXYN3+J8FZL	SCREW	4
K155	DFHR7979ZA	HINGE GUARD SHEET(MP)	1
K156	DFHR7980ZA	HINGE GUARD SHEET(PCMCIA)	1
K157	DFHG1429ZA	PACKING(CN)	1
MAIN PCB			
C2, 3, 4, 5, 35, 43, 69, 70, 72, 515	EEFCD0D101R	CAPACITOR, 2V, 100μF	10
C14, 15, 16, 17, 41, 42, 48, 71, 129, 130, 131, 132, 133, 134, 135, 136, 183, 202, 264, 336, 371, 372, 373, 394, 421, 422, 427, 534, 538	DCUJ1A105ZFL	CAPACITOR, 10V, 1μF	29
C18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 45, 46, 49, 50, 51, 52, 63, 73, 77, 84, 85, 87, 88, 90, 91, 92, 93, 98, 103, 104, 107, 108, 109, 110, 111, 112, 144, 148, 149, 151, 152, 153, 154, 155, 156, 157, 163, 165, 167, 172, 173, 174, 175, 176, 179, 180, 181, 182, 185, 187, 188, 189, 191, 192, 193, 196, 203, 204, 220, 224, 227, 228, 229, 230, 231, 232, 233, 235, 241, 242, 243, 244, 245, 246, 247, 248, 249, 254, 255, 256, 265, 266, 267, 275, 276, 277, 285, 289, 290, 291, 293, 294, 295, 297, 298, 302, 308, 310, 311, 313, 319, 322, 323, 328, 329, 332, 333, 337, 338, 346, 354, 355, 356, 368, 369, 370, 374, 381, 382, 440, 441, 467, 468, 469, 470, 471, 477, 481, 484, 486, 487, 488, 489, 490, 493, 497, 498, 514, 516, 522, 523, 531, 533, 535, 536, 564	DCUM1C104ZFK	CAPACITOR	168
C47, 324	F1G1H222A412	CAPACITOR, 50V, 2200F	2
C53, 54, 357, 393, 396, 418, 431, 432, 524, 529, 530, 548	DCUE1C106MBY	CAPACITOR, 16V, 10μF	12
C56, 225, 391, 392, 398, 399, 400, 409, 410, 412, 413, 415, 417, 426, 435	ECUV1E104ZFV	CAPACITOR, 25V, 0.1μF	15
C57, 61, 65, 159, 160, 161, 162, 279, 280, 281, 282, 496	DCUM1H470JCL	CAPACITOR, 50V, 47pF	12
C58, 292, 303, 304, 307, 314, 316, 321, 385, 508, 509, 510	ECUV1C224ZFV	CAPACITOR, 16V, 0.22μF	12
C59, 166, 358, 360, 361, 362, 364	F1G1C103A046	CAPACITOR	7
C60	F1G1H331A401	CAPACITOR, 50V, 330pF	1
C66, 82, 395	DCUA0J475MBY	CAPACITOR, 6.3V, 4.7μF	3
C68, 75, 76, 86, 89, 94, 100, 101, 102, 137, 138, 139, 158, 164, 177, 178, 184, 186, 200, 223, 234, 236, 250, 251, 257, 274, 299, 300, 305, 309, 317, 340, 341, 342, 343, 345, 348, 349, 350, 351, 353, 389, 402, 472, 474, 476, 500, 501, 504, 506, 507, 525, 526, 527, 528, 549	DCUC0J106KBY	CAPACITOR, 16V, 10μF	56
C74, 237, 238, 239, 240, 312, 320, 330, 331, 344, 352, 379, 414, 430, 478, 479, 511	DCUM1H101JCL	CAPACITOR, 50V, 100pF	17
C83, 142, 143, 215, 252, 253, 278, 288, 296, 301, 376, 377, 378, 390, 401, 406, 485	DCUM1H102KBL	CAPACITOR	17
C95, 96, 97, 99, 147, 197, 199, 226, 335, 480, 517	DCUM1H103ZFL	CAPACITOR, 50V, 0.01μF	11
C113, 494	DCUM1H100DCL	CAPACITOR, 50V, 10pF	2

REF. NO and Area	PART NO	DESCRIPTION	Q'TY
C140, 141	DCUM1H180JCL	CAPACITOR	2
C150, 260, 261, 262, 263, 383, 397, 416, 423	ECUV1C105ZFX	CAPACITOR, 16V, 1μF	9
C168, 325, 326, 327, 363, 365, 366, 367, 386, 387, 388, 403, 404, 405	EEFCD0J470R	CAPACITOR, 2V, 47μF	14
C169, 268	DCUE1A106ZFL	CAPACITOR, 10V, 10μF	2
C419, 420, 424	ECUV1C334ZFV	CAPACITOR, 16V, 0.33μF	3
C428, 429, 475	ICUV1C475ZFX	CAPACITOR, 16V, 4.7μF	3
C532	DCUK1A226ZFL	CAPACITOR, 10V, 22μF	1
CN1	K1KA50A00144	CONNECTOR	1
CN2, 5, 10, 20	FH12-40S05SV	CONNECTOR	4
CN3	K1MME4B00013	CONNECTOR	1
CN4	DFJP050ZA002	CONNECTOR	1
CN6	K1KA20B00111	CONNECTOR, FOR LCD	1
CN7	DFJP201ZA002	CONNECTOR, FOR SPERKER(LARGE)	1
CN8	K1MMF4A00001	CONNECTOR, FOR PCMCIA	1
CN9	K1KA22B00020	CONNECTOR	1
CN11	DFJS194ZA006	CONNECTOR	1
CN12	DFJP02C75YAJ	CONNECTOR, FOR RTC BUTTERY	1
CN13, 55	DFJS365ZA010	CONNECTOR	2
CN14	K1KA02A00237	CONNECTOR	1
CN16	K1FB104B0017	CONNECTOR, FOR USB	1
CN17	K1KA30A00143	CONNECTOR	1
CN18	FH12-50S05SH	CONNECTOR	1
CN19	DFJP143YA060	CONNECTOR	1
CN23	K1KA03A00159	CONNECTOR	1
CN24	DFJS578ZA016	CONNECTOR	1
CN30, 31	DFJS511ZA124	CONNECTOR	2
CN40	K1MN13B00032	CONNECTOR	1
CN41	DFJP213ZB068	CONNECTOR	1
CN52	DFJS13N24ZAJ	CONNECTOR, FOR KB IN	1
CN53	DFJS209ZA016	CONNECTOR	1
CN54	DFJS514ZA012	CONNECTOR, FOR PAD-SUB	1
CN56	K1KA09B00048	CONNECTOR	1
CN57	DFJP201ZA005	CONNECTOR, FOR TOUCH PANEL	1
D1, 4, 6, 9, 10, 11, 29	MA729-TX	DIODE	7
D2	DEDRB420DT97	DIODE	1
D3, 26, 27	DEDRB081L20	DIODE	3
D5, 7, 25	DEDRB715FT7	DIODE	3
D12, 14, 30	DEDSFPB64V	DIODE	3
D13	DAP222TL	DIODE	1
D15, 16, 17	DEDDA204UT	DIODE	3
D19, 20, 21, 22	DEDUDZ6R2BT	DIODE	4
D23	DED03P2JT1-D	DIODE	1
D24	DEDUDZ9R1BT	DIODE	1
D28	DEDUDZ18BT	DIODE	1
D31, 32, 33	DEDAP202UT7	DIODE	3
D34, 35	DEDUDZ10BT	DIODE	2
F1	XBADMMCT030U	FUSE	1
F2, 3 ⚠	K5H502300001	FUSE	2
F4 ⚠	XBAD4516R30L	FUSE	1
F5, 6 ⚠	XBADMMCT010U	FUSE (1A)	2
IC2	C0DBAFH00006	IC, DC/DC CONTROLLER	1
IC5, 120, 149	DA7SH32U85L0	IC, OR GATE	3
IC6	C1DB00000610	IC	1
IC9	DARB5C4782BR	IC, PC CARD CONTROLLER	1
IC10	DAR5C4752T-R	IC	1
IC16	DAM2370R121P	IC, REGULATOR	1
IC20	DAF3434T000H	IC, EC	1
IC30	XC62FP2502PR	IC, REGULATOR	1
IC31	C1DB00000578	IC	1
IC32	DAB664ETBX3A	IC, CLOCK BUFFER	1
IC33	DAW82443BXCI	IC, 443BX	1

REF. NO and Area	PART NO	DESCRIPTION	Q'TY
IC34	DA9716CTBX3A	IC, PLL	1
IC35, 37, 39, 41, 80, 81, 82, 83	C3ABQG000025	IC, SDRAM	8
IC43	DAFW82371M-I	IC, PIIX4	1
IC45, 101, 104, 107, 117, 119, 124, 125, 133, 134	DA7SH08U85L0	IC, AND GATE	10
IC46	DA2563A1SX2V	IC, REGULATOR	1
IC47, 49	DA97338VJA2N	IC, SUPER I/O	2
IC48	C0ZBZ0000526	IC, BUFFER	1
IC50	C1DB00000512	IC, SOUND	1
IC51	C1DB00000536	IC, SOUND AMP	1
IC52	DAM2904MT1-P	IC	1
IC53	DALP298050N	IC, REGULATOR	1
IC54	DAPST9140NXT	IC, REGULATOR	1
IC55, 56	DAPST9125NXT	IC, REGULATOR	2
IC59	DA29LV0409FJ	IC, FLASH ROM (BIOS)	1
IC62	DA7W02UT12L0	IC, NOR GATE	1
IC63, 105, 106, 139	DA7S14UT85L0	IC, INVERTER	4
IC68	DALP298030N	IC, SW	1
IC69	C1DB00000534	IC, CHARGE	1
IC70	DA2562A1BX2V	IC	1
IC72	C1ZBZ0001882	IC	1
IC73	DAC63M63AX3H	IC	1
IC74	DA1634CAITXX	IC, DRAM	1
IC75, 76	DACBT3306PWT	IC	2
IC78	C1DB00000475	IC, GCL	1
IC79	DA38813M084M	IC	1
IC85	DA3125QXX1T	IC, BUFFER	1
IC86	C1DB00000557	IC, SMBUS GP I/O	1
IC88	DA121N331BRR	IC, REGULATOR	1
IC102	DA7S08UT85L0	IC, AND GATE	1
IC108, 109	DA7ST08U85L0	IC, AND GATE	2
IC111	DA7W66UT12L0	IC, ANALOG SWITCH	1
IC112, 122	DA7ST04U85L0	IC	2
IC113, 114, 132	DA7W14UT12L0	IC, INVERTER	3
IC116	TVHC32FTL	IC, OR GATE	1
IC131	C0DBEZG00006	IC, REGULATOR	1
IC135	DA7S32UT85L0	IC, OR GATE	1
IC136	C0DBZHG00004	IC, USB POWER CONTROLLER	1
IC137, 138	C0JBAZ001746	IC	2
IC142	LVL0023	IC	1
IC144, 145, 146, 147, 148	DA7SH86U85L0	IC	5
JK1	K2HC105B0008	JACK, MIC	1
JK2	K2HC106B0006	JACK, HEADPHONE	1
JK3	DFJJB3Z07ZAH	JK, DC IN	1
L1	DDAZR4R7KT2L	FERRITE BEAD	1
L2	ETQP6F1R3LFA	CHOKE COIL	1
L3, 4, 6, 12, 13, 23, 24, 25, 51, 52	DDB5Z005-L	FERRITE BEAD	10
L5	ERJ6GEYJ8R2V	RESISTOR	1
L7, 8, 36, 37, 38, 39	DDB5Z024E-L	FERRITE BEAD	6
L9, 10, 33, 35, 40	DDB5Z031J-L	FERRITE BEAD	5
L15, 16, 17, 18, 19, 20, 21, 22	DDB5Z030J-D	FERRITE BEAD	8
L34, 55	DDB5Z028C-L	FERRITE BEAD	2
L43, 44, 46, 47	DDB5Z021C-Y	FERRITE BEAD	4
L48, 49, 50	ERJ3GEY0R00V	RESISTOR 1/16W, 0Ω	3
L53	DDAZZ100MT-T	COIL, 10mH	1
L54	DDAZS100MT3T	COIL	1
L56	G0A330H00006	CHOKE COIL	1
L57	DDB5Z034B-Y	FERRITE BEAD	1
L58	DDB5Z034A-Y	FERRITE BEAD	1
LD1, 2, 3, 4, 5	SEC1703C	LED	5
LD7, 8	LN2162C-TR	LED	2
PS1, 3 ⚠	ERY32SA120VA	POLY SW (1.2A)	2

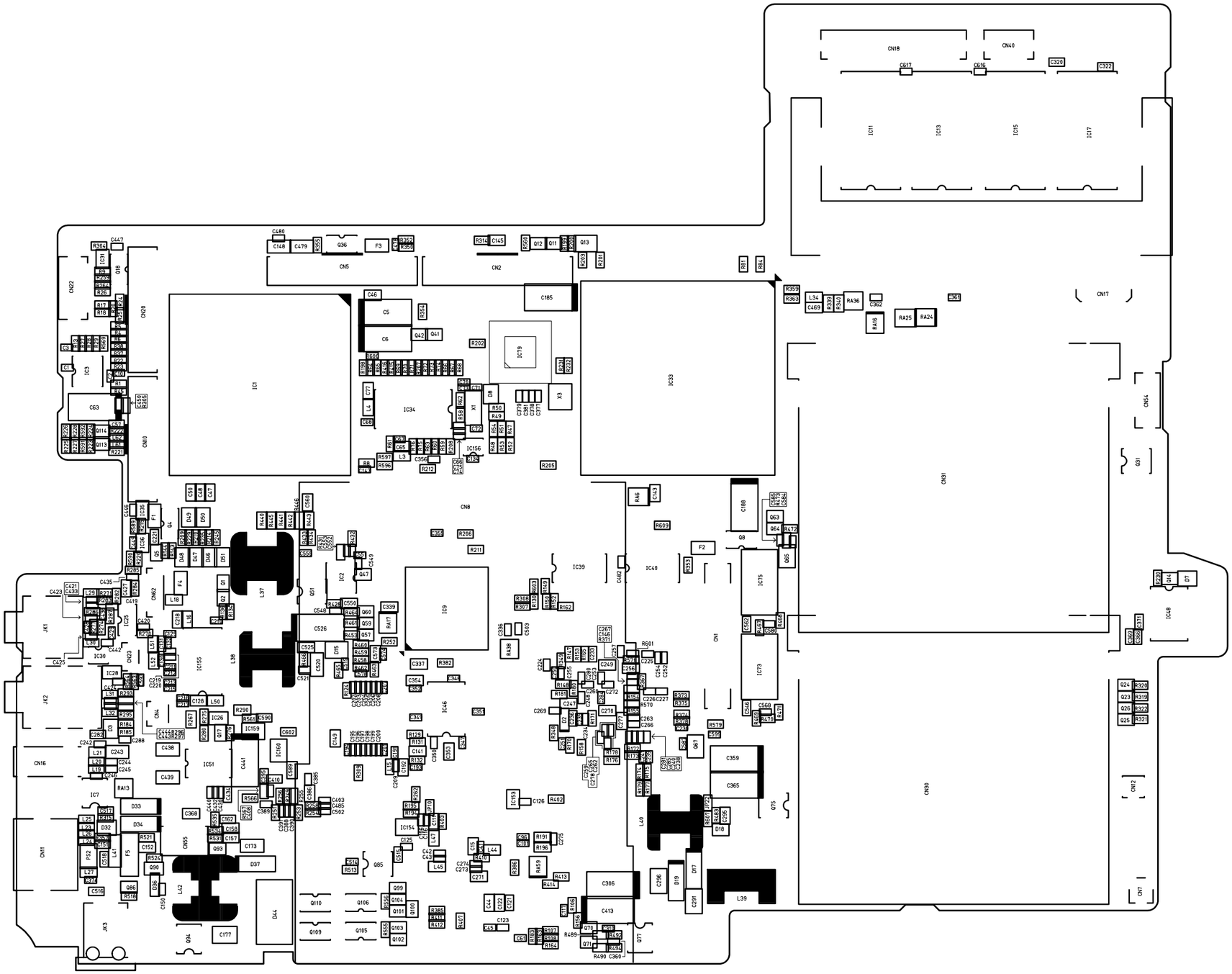
REF. NO and Area	PART NO	DESCRIPTION	Q'TY
Q1, 7	DA3LN01STL	TRANSISTOR	2
Q2, 8, 11, 12, 14, 16, 20, 21, 23, 35, 36, 41, 55, 60, 64, 65, 66, 69, 73, 74	DETC114YETL	TRANSISTOR	20
Q3, 62, 63	2SK3019TL	TRANSISTOR	1
Q4	DAFDS6690A	TRANSISTOR	1
Q5, 6	DAFDS6670A	TRANSISTOR	2
Q9, 13, 17, 37, 38, 56, 67, 71, 75	DETA144EETL	TRANSISTOR	9
Q10, 19	IRF7205ATR	TRANSISTOR	2
Q15	DAFDN338P	TRANSISTOR	1
Q18	DAIRF7413	TRANSISTOR	1
Q22	2SJ187-TD	TRANSISTOR	1
Q24	DAIRF7416	TRANSISTOR	1
Q25	DETC114EETL	TRANSISTOR	1
Q26, 27, 28, 29, 30, 31, 32, 33, 34, 51	DETA114EETL	TRANSISTOR	10
Q39, 40, 48, 49, 59, 68	DAFDS6912A	TRANSISTOR	6
Q42, 43, 44, 45, 46, 54	DETC144EETL	TRANSISTOR	6
Q47	DETUMC2NTR	TRANSISTOR	1
Q50, 53, 58	DASI4435DYTA	TRANSISTOR	3
Q52	2SK1582T2	TRANSISTOR	1
Q57	DETUMG2NTR	TRANSISTOR	1
R1	ERJ3EKF1100V	RESISTOR, 1/16W, 110Ω	1
R2, 5, 25	ERJ3EKF56R2V	RESISTOR, 1/16W, 56.2Ω	3
R3, 11, 52, 67	ERA3YED102V	RESISTOR, 1/16W, 1KΩ	4
R4, 12, 13	ERA3YED202V	RESISTOR, 1/16W, 2KΩ	3
R7, 8, 82, 83, 84, 85, 86, 87, 90, 92, 93, 96, 462, 464, 467, 494, 496	ERJ3GEYJ330V	RESISTOR, 1/16W, 33Ω	17
R10, 66	ERA3YED152V	RESISTOR, 1/16W, 1.5KΩ	2
R15, 16, 20, 109, 112, 125, 129, 131, 134, 146, 147, 153, 155, 156, 157, 193, 194, 227, 262, 263, 296, 297, 397, 476, 501	ERJ3GEYJ102V	RESISTOR, 1/16W, 1KΩ	25
R19	ERJ3GEYJ681V	RESISTOR, 1/16W, 680Ω	1
R21, 22	ERJ3GEYJ151V	RESISTOR, 1/16W, 150Ω	2
R23, 28, 30	ERJ3GEYJ152V	RESISTOR	3
R24, 343, 404, 418	ERJ3GEYJ271V	RESISTOR, 1/16W, 270Ω	4
R27, 55, 59, 61, 68, 70, 73, 76, 89, 104, 105, 106, 122, 123, 133, 136, 160, 173, 197, 216, 217, 218, 219, 220, 221, 233, 234, 247, 249, 256, 257, 290, 291, 292, 293, 294, 295, 298, 299, 308, 309, 315, 333, 334, 339, 340, 342, 382, 414, 423, 441, 454, 471, 475, 477, 478, 479, 482, 483, 485, 488, 489, 490, 506, 508, 509, 511, 535, 537, 538, 545, 547, 581, 582	ERJ3GEYJ103V	RESISTOR, 1/16W, 10KΩ	74
R37, 41, 42, 43, 78, 79, 139, 140, 142, 144, 145, 214, 223, 224, 228, 229, 230, 264, 277, 287, 341, 345, 352, 359, 363, 368, 399, 403, 407, 411, 413, 417, 421, 425, 457, 463, 474, 510, 519, 521, 531, 540, 541, 544	ERJ3GEY0R00V	RESISTOR, 1/16W, 0Ω	44
R38, 323, 381	ERJ3GEYJ474V	RESISTOR, 1/16W, 470KΩ	3
R39, 64, 65, 88, 97, 98, 360	ERJ3GEYJ100V	RESISTOR, 1/16W, 10Ω	7
R40, 332, 335	ERJ3GEYJ333V	RESISTOR, 1/16W, 33kΩ	3
R44	ERA3YED103V	RESISTOR, 1/16W, 10KΩ	1
R45	ERA3YED153V	RESISTOR, 1/16W, 15KΩ	1
R46, 47, 48, 50	DBJ14RR022VM	RESISTOR, 1/4W, 0.022Ω	4
R51, 409	ERA3YED333V	RESISTOR, 1/16W, 33KΩ	2
R53, 405	ERA3EED4991V	RESISTOR, 1/16W, 4990Ω	2
R63, 75, 77, 80	ERJ3GEYJ180V	RESISTOR, 1/16W, 18Ω	4
R71, 102, 192, 195, 196, 244, 274, 284, 326, 327, 328, 354, 369, 370, 371, 373, 374, 375, 376, 377	ERJ3GEYJ101V	RESISTOR, 1/16W, 100Ω	20
R72, 127, 128, 169, 171, 175, 176, 222	ERJ3GEYJ105V	RESISTOR, 1/16W, 1MΩ	8

REF. NO and Area	PART NO	DESCRIPTION	Q'TY
R100	ERJ3GEYJ106V	RESISTOR, 1/16W, 10MΩ	1
R101	ERJ3GEYJ154V	RESISTOR, 1/16W, 150kΩ	1
R103, 178, 179, 185, 186, 187, 188, 200, 201, 202, 255, 265, 324, 348, 422, 455, 472, 473, 487, 491, 500, 515	ERJ3GEYJ473V	RESISTOR, 1/16W, 47KΩ	22
R113, 114, 115, 116	ERJ3GEYJ270V	RESISTOR, 1/16W, 27Ω	4
R118, 119, 120, 121	ERJ3GEYJ153V	RESISTOR, 1/16W, 15kΩ	4
R124, 269	ERJ3GEYJ511V	RESISTOR	2
R126, 130, 267, 383, 387, 465	ERJ3GEYJ562V	RESISTOR, 1/16W, 5.6KΩ	6
R135, 364, 388, 389, 390, 440, 459, 460, 470, 495, 497, 528, 529	ERJ3GEYJ104V	RESISTOR, 1/16W, 100KΩ	13
R141	ERA3YED751V	RESISTOR	1
R158, 159, 168, 239, 240, 241, 242, 507, 518, 520, 548	ERJ6GEY0R00V	RESISTOR, 1/10W, 0Ω	11
R163, 165, 231, 232, 245, 253, 398	ERJ3GEYJ222V	RESISTOR, 1/16W, 2.2KΩ	7
R164, 166, 167	ERJ6ENF75R0V	RESISTOR, 1/10W, 75.0Ω	3
R181, 329	DBT10KC1513P	THERMISTOR, 1W, 151KΩ	2
R191, 198	ERJ6GEYJ120V	RESISTOR, 1/10W, 12Ω	2
R225, 252, 395	ERJ3GEYJ471V	RESISTOR, 1/16W, 470Ω	3
R248, 372, 426, 427, 428, 584	ERJ3GEYJ472V	RESISTOR, 1/16W, 4.7KΩ	6
R254	ERJ3GEYJ683V	RESISTOR	1
R258, 319, 320, 321, 322, 325, 361	ERJ3GEYJ224V	RESISTOR	7
R260, 261, 268, 524, 525, 526, 527	ERJ3GEYJ221V	RESISTOR, 1/16W, 220Ω	7
R317, 318	ERJ3GEYJ564V	RESISTOR, 1/4W, 560KΩ	2
R330, 331, 336, 337	ERA3YED392V	RESISTOR	4
R355, 356, 365, 367, 406	DBJ14RR033VM	RESISTOR, 1/14W, 0.033Ω	5
R378	ERJ3GEYJ223V	RESISTOR, 1/16W, 22kΩ	1
R379, 380, 386	ERJ6GEYJ222V	RESISTOR, 1/10W, 2.2KΩ	3
R385	ERJ3GEYJ3R3V	RESISTOR	1
R392, 393	DBJ14RR047VM	RESISTOR, 1/14W, 0.047Ω	2
R396	ERJ3GEYJ4R7V	RESISTOR, 1/16W, 4.7Ω	1
R400	ERJ3GEYJ332V	RESISTOR, 1/16W, 3.3KΩ	1
R401, 402	ERA3YED201V	RESISTOR, 1/16W, 200Ω	2
R408	ERA3YKD154V	RESISTOR, 1/16W, 150KΩ	1
R493	ERJ3GEYJ220V	RESISTOR, 1/16W, 22Ω	1
R498	ERA3YED681V	RESISTOR	1
R514, 516	ERJ3GEYJ563V	RESISTOR	2
R549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580	ERJ2GEJ180X	RESISTOR, 1/4W, 18Ω	32
RA1, 2, 28	EXBV8V102JV	RESISTOR ARRAY, 1KΩ	3
RA3, 4, 5, 6, 7	EXBV8V100JV	RESISTOR ARRAY, 10Ω	5
RA8, 10, 12, 14	DEARA8CJ180M	RESISTOR ARRAY, 18Ω	4
RA16, 18, 19	DEARA8AJ473M	RESISTOR ARRAY, 47KΩ	3
RA22	DEARA8CJ330M	RESISTOR ARRAY, 33Ω	1
RA24, 31, 57, 62	EXBV8V473JV	RESISTOR ARRAY, 47KΩ	4
RA26, 27, 30	EXBV8V220JV	RESISTOR ARRAY, 22Ω	3
RA29, 35, 46, 73, 79	EXBV8V103JV	RESISTOR ARRAY, 10KΩ	5
RA32, 42, 43, 44, 45, 47, 48, 49, 50, 51, 52, 63, 67, 68, 70, 71, 72, 74, 75, 76, 78	DEARA8AJ103M	RESISTOR ARRAY, 10KΩ	21
RA34	EXBV8V330JV	RESISTOR ARRAY, 33Ω	1
RA36	EXBV8V221JV	RESISTOR ARRAY	1
RA58	EXBV8V472JV	RESISTOR ARRAY, 4.7kΩ	1
RA77	DEARA8AJ152M	RESISTOR ARRAY, 1.5KΩ	1
SW1, 3	EVQPLDA15	SW, LEFT	2
SW2	DFSS2B14ZAXN	SW	1
X1	DECU14318L5U	OSCILLATOR	1
X2	DECU00032M1D	OSCILLATOR (32.768KHz)	1
X3, 5	H2D800400011	OSCILLATOR	2
X4	H0J491500005	OSCILLATOR (49.152MHz)	1

REF. NO and Area	PART NO	DESCRIPTION	Q'TY
BATTERY PCB			
CN900	K1KB08A00075	CONNECTOR	1
CN901	K1KB30A00105	CONNECTOR	1
IR PCB			
C770, 771	DCUM1C104ZFK	CAPACITOR	2
C772	DCUJ1A105ZFL	CAPACITOR, 10V, 1μF	1
C773	EEFCD0J470R	CAPACITOR, 2V, 47μF	1
C774	ECUV1C224ZFV	CAPACITOR, 16V, 0.22μF	1
CN770	DFJS365ZA010	CONNECTOR	1
D770	DEDRB715FT7	DIODE	1
IC770	DEDHRM230S	IC, LED	1
R772	ERJ3GEYJ472V	RESISTOR, 1/16W, 4.7KΩ	1
R774	DBJ8GF1R50VM	RESISTOR, 1/8W, 1.5Ω	1
R775, 776	ERJ3GEYJ100V	RESISTOR, 1/16W, 10Ω	2
RJ PCB			
CN800	DFJP04C75YAJ	CONNECTOR	1
JK800	DFJS555ZA004	CONNECTOR	1
L800, 801	J0JCC0000092	FERRITR BEAD	2
TS13 PCB			
CN850	K1MN04B00023	CONNECTOR	1
CN851	K1KA04B00137	CONNECTOR	1
I / O PCB			
C700, 735, 736	DCUM1C104ZFK	CAPACITOR	3
C701, 702, 703, 704, 705, 706, 708, 710	DCUM1H101JCL	CAPACITOR, 50V, 100pF	8
C707, 709, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 730, 732, 733, 734	F1G1H221A401	CAPACITOR, 50V, 2220F	23
C728, 729, 731	DCUM1H330JCL	CAPACITOR, 50V, 33pF	3
CN700, 701	FH12-40S05SV	CONNECTOR	2
CN702	K1FB115B0074	CONNECTOR	1
CN703	K1FB125B0080	CONNECTOR	1
CN704	7734P-09G2	CONNECTOR	1
CN705	DFJP142ZA080	CONNECTOR	1
CN706	DFJP201ZA005	CONNECTOR	1
D700	DEDRB411DT47	DIODE	1
L700, 701, 702, 703, 704, 705, 706, 707	DDB5Z021G-Y	FERRITE BEAD	8
L708, 709, 710, 711, 712, 713, 714	DDB5Z024E-L	FERRITE BEAD	7
L715, 716, 717	DDB5Z034A-Y	FERRITE BEAD	3
PS700 ⚠	ERY32SA120VA	POLY SW (1.2A)	1
R680	ERJ3GEY0R00V	RESISTOR 1/16W, 0Ω	1
R681, 682	ERJ3GEYJ221V	RESISTOR, 1/16W, 220Ω	2
R692, 693, 694, 695, 713, 714, 715, 716, 717, 718, 719, 720	ERJ3GEYJ102V	RESISTOR, 1/16W, 1KΩ	12
R700, 703	ERJ3GEYJ562V	RESISTOR, 1/16W, 5.6KΩ	2
R704, 705, 706, 707, 708, 709, 710, 711, 712	ERJ3GEYJ472V	RESISTOR, 1/16W, 4.7KΩ	9
R723, 724	ERJ6GEY0R00V	RESISTOR, 1/10W, 0Ω	2
R726, 727	ERJ3GEYJ222V	RESISTOR, 1/16W, 2.2KΩ	2
FDD PCB			
C780	DCUM1C104ZFK	CAPACITOR	1
CN760	DFJS250YA100	CONNECTOR	1
CN761	DFJS013ZA026	CONNECTOR	1
IC760	DA7S04UT85L0	IC, INVERTER	1

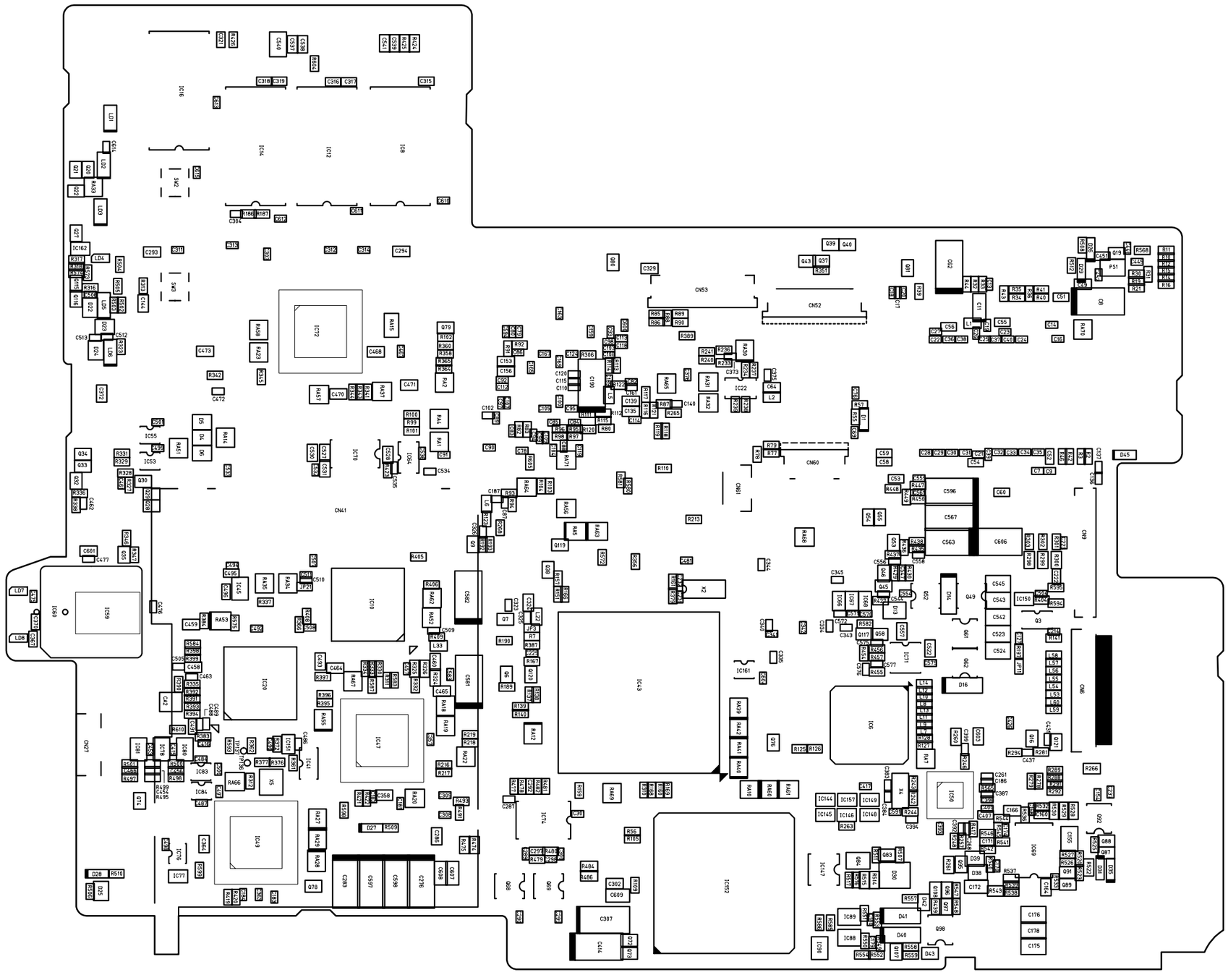
CF-28
Printed Circuit Board

MAIN PCB<Top View>



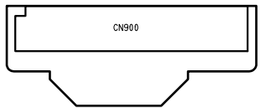
Printed Circuit Board

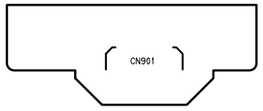
MAIN PCB<Bottom View>



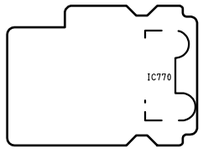
Printed Circuit Board

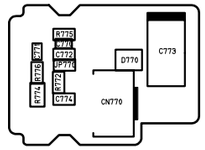
Battery PCB



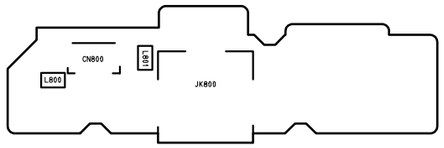


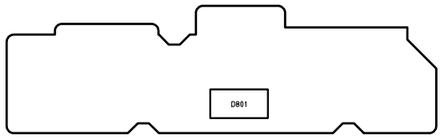
IR PCB



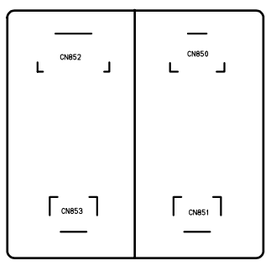


RJ PCB

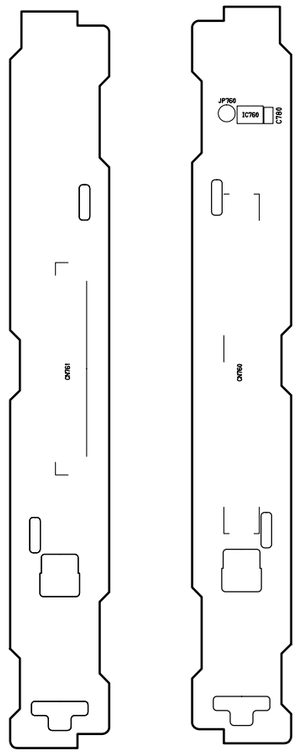




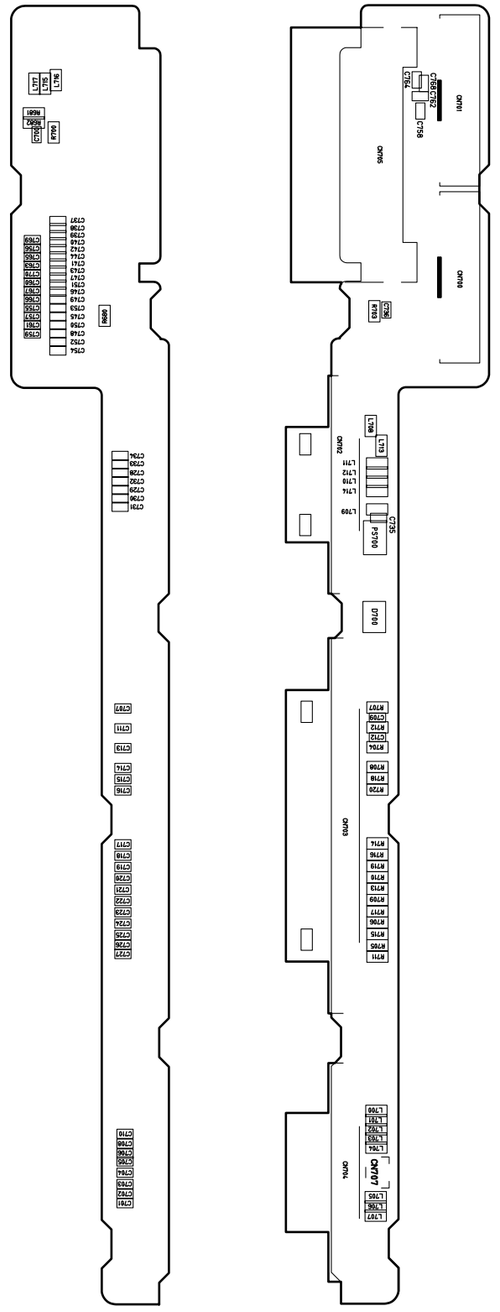
TS13 PCB



FDD PCB



I/O PCB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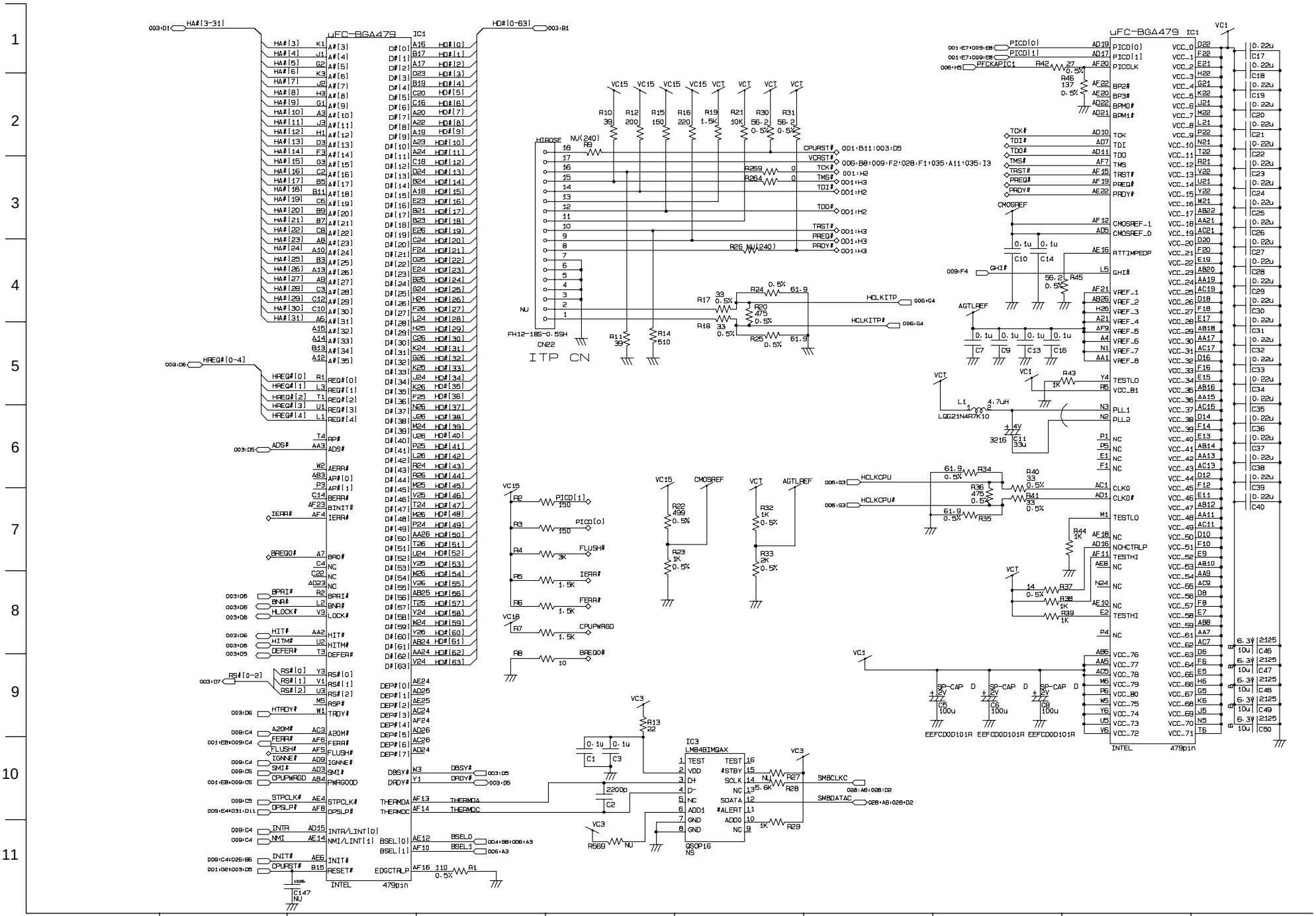
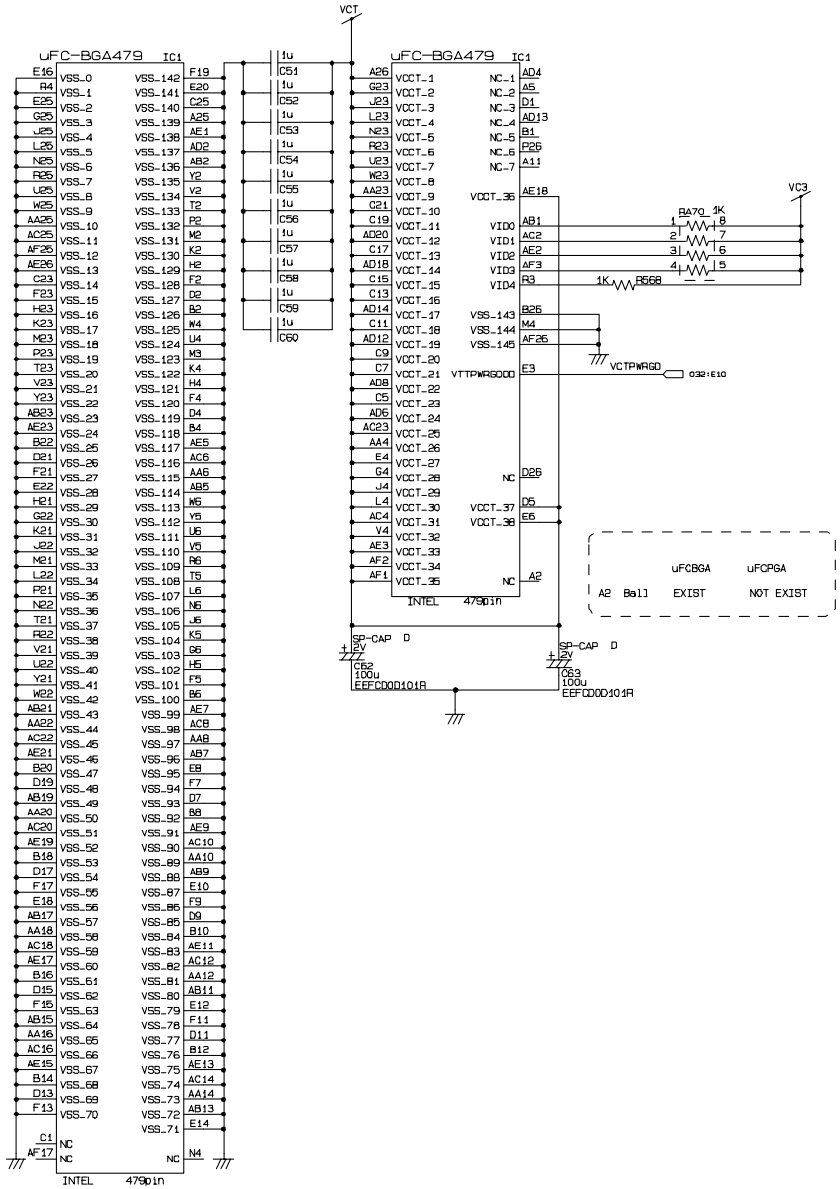
CN751

CF-28MK2
Schematic Diagrams
Main 1 CPU (1 / 2)



Main 2 CPU (2 / 2)


uFC-BGA479 IC1
INTEL 479pin
VCT
C51 1u
C52 1u
C53 1u
C54 1u
C55 1u
C56 1u
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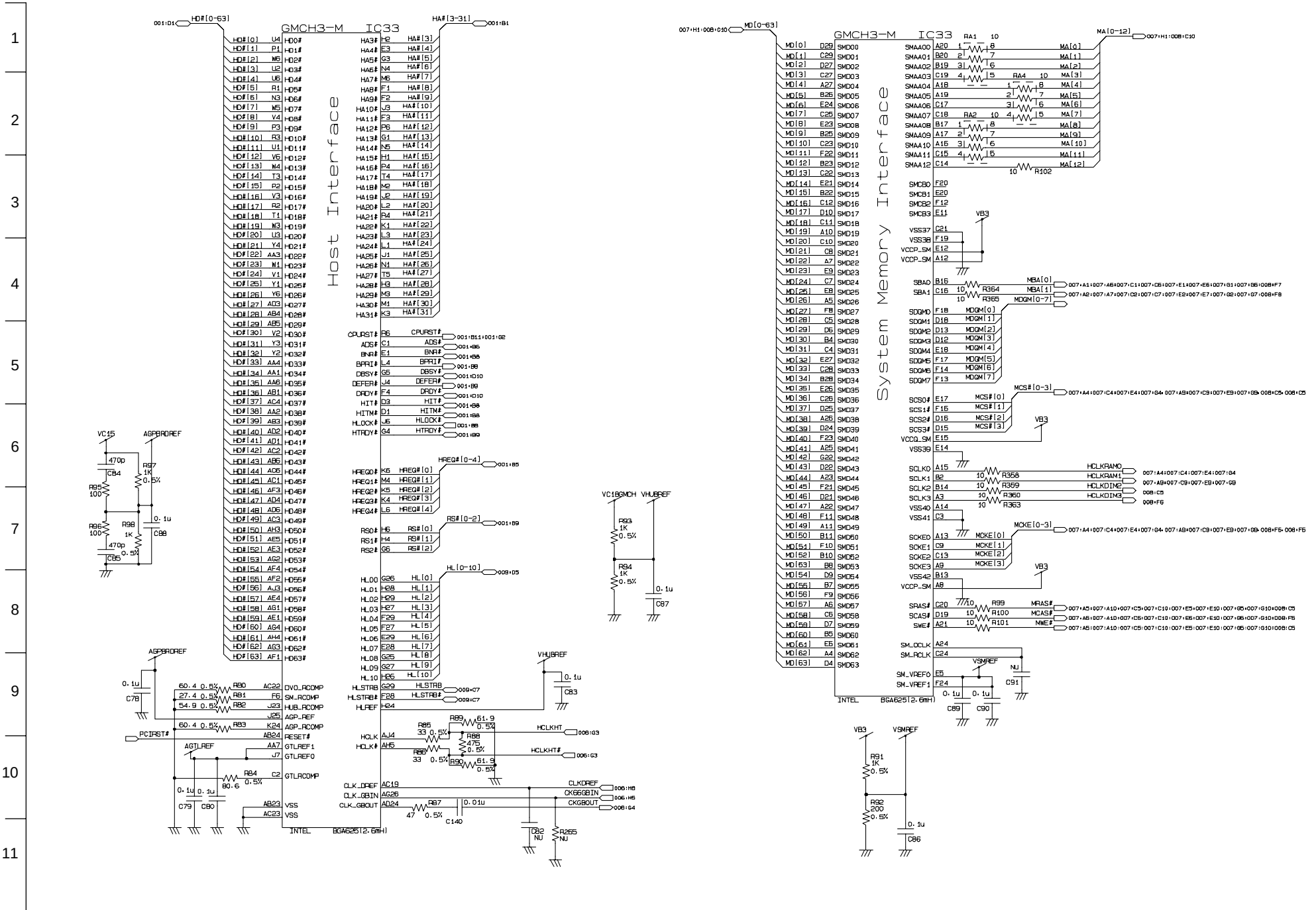
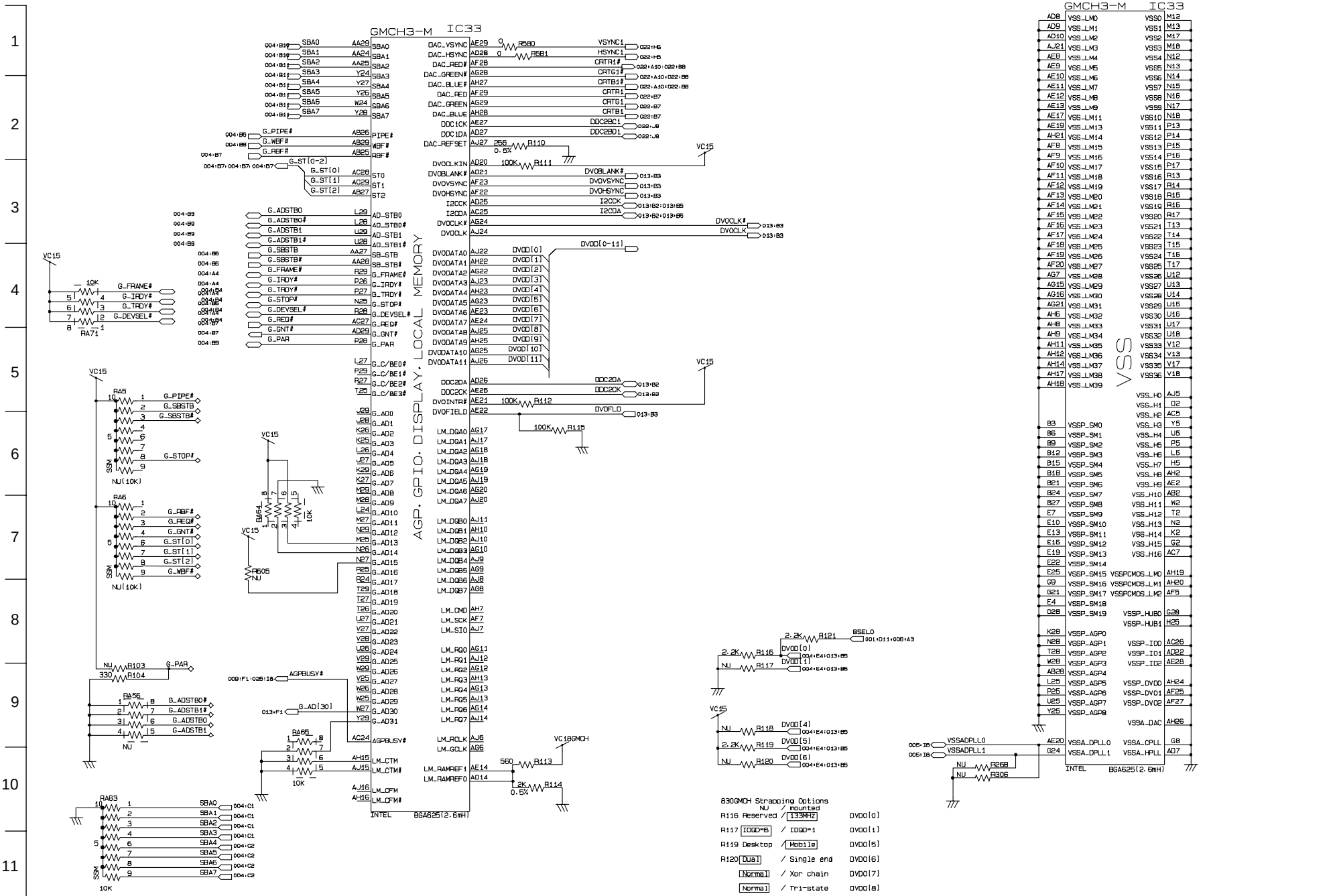
C58 1u
C59 1u
C60 1u
VCC_36
VID0
VID1
VID2
VID3
VID4
VTTPWRGOOD
VSS_143
VSS_144
VSS_145
VC3
RA79_1K
1K R568
VCTPWRGD
D32:E10
SP-CAP D
2V
C62 100u EEFCD0D101R
C63 100u EEFCD0D101R
uFCBGA uFCPGA
A2 Ball EXIST NOT EXIST

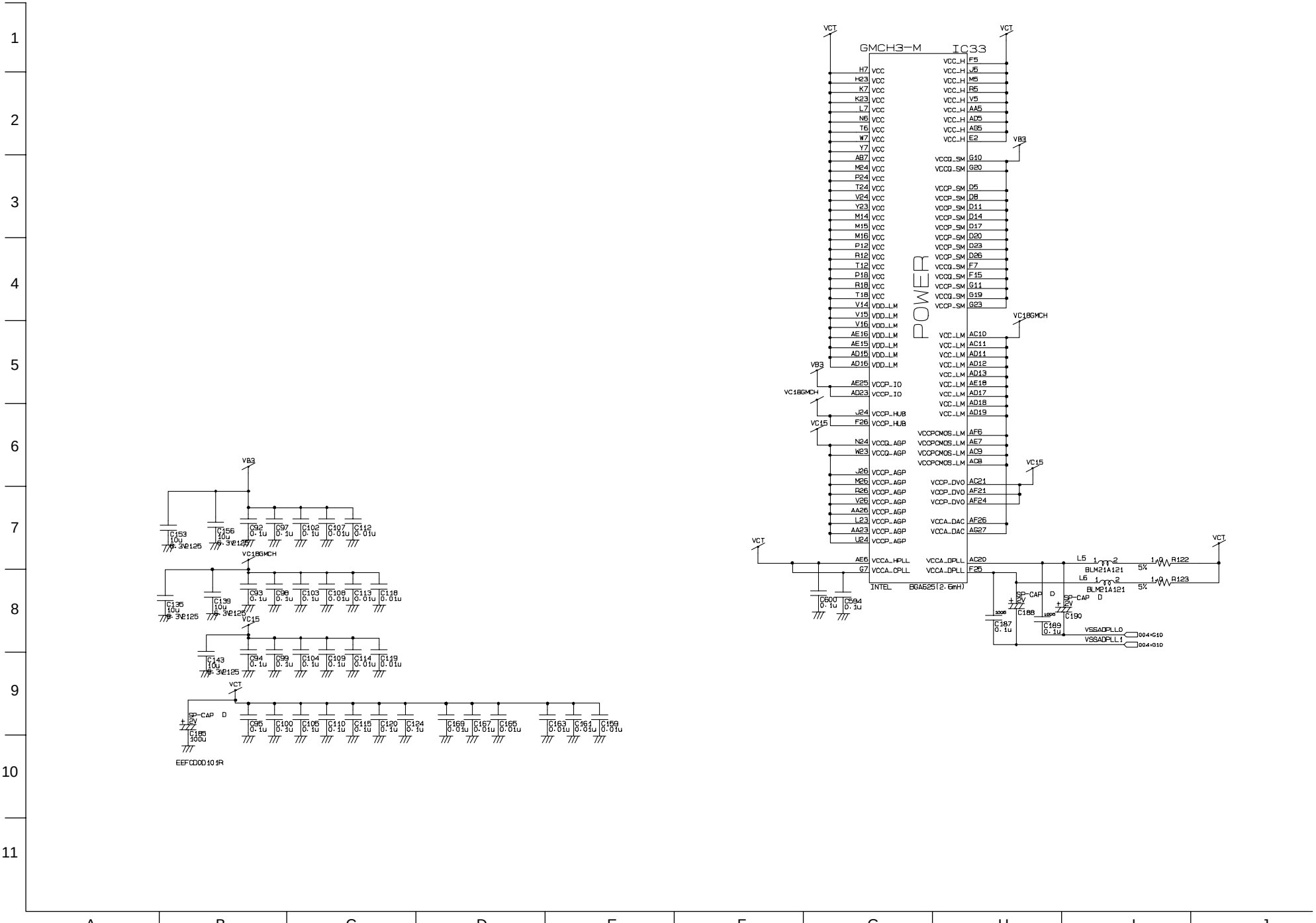
Main 3 GMCH3 (1 / 3)



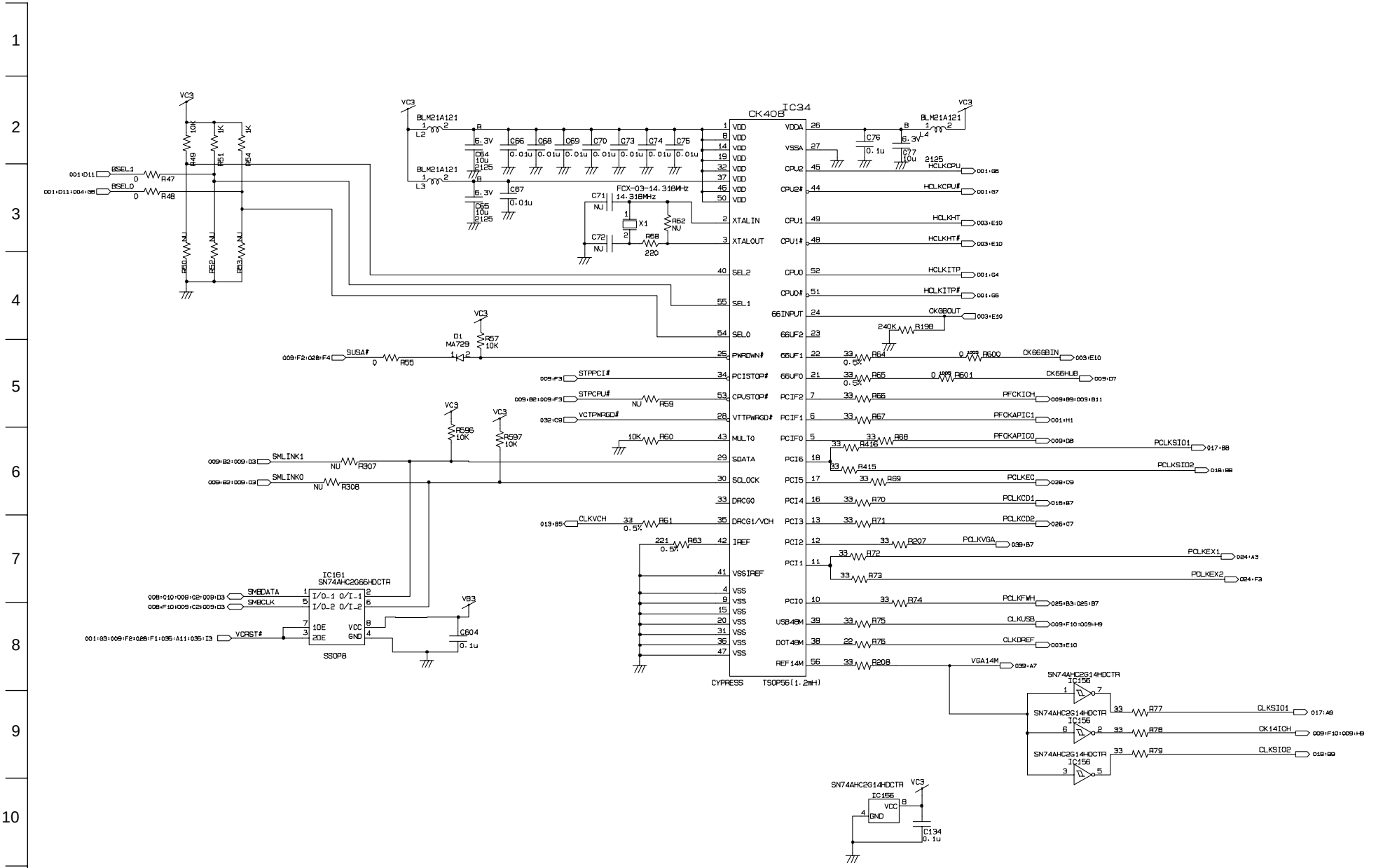
Main 4 GMCH3 (2 / 3)



Main 5 GMCH3 (3 / 3)



Main 6 Clock


IC34
CK408
CYPRESS TSOP56(1.2mH)
IC161
SN74AHC2G66HDCTR
SSOP8
SN74AHC2G14HDCTR
BLM21A121
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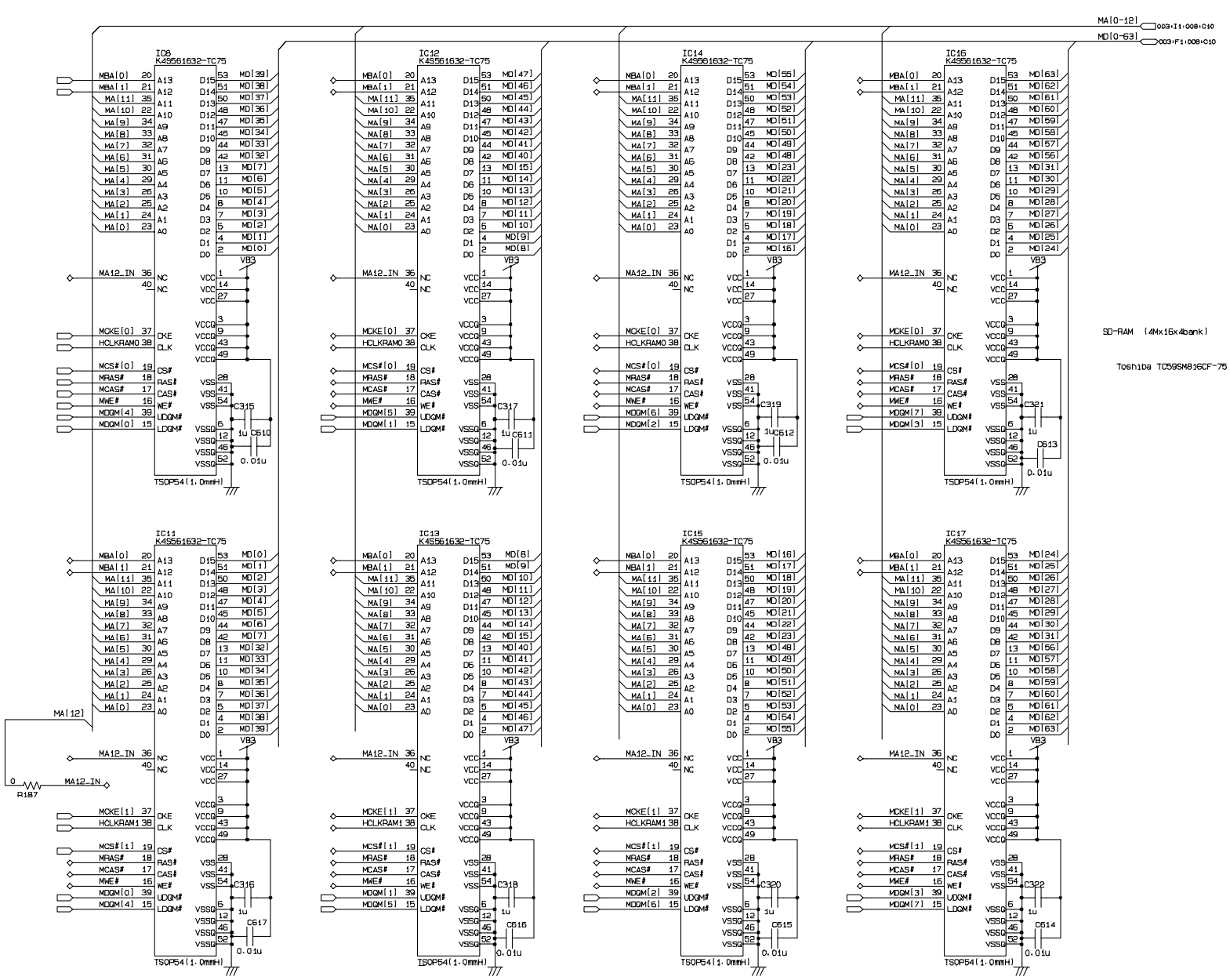
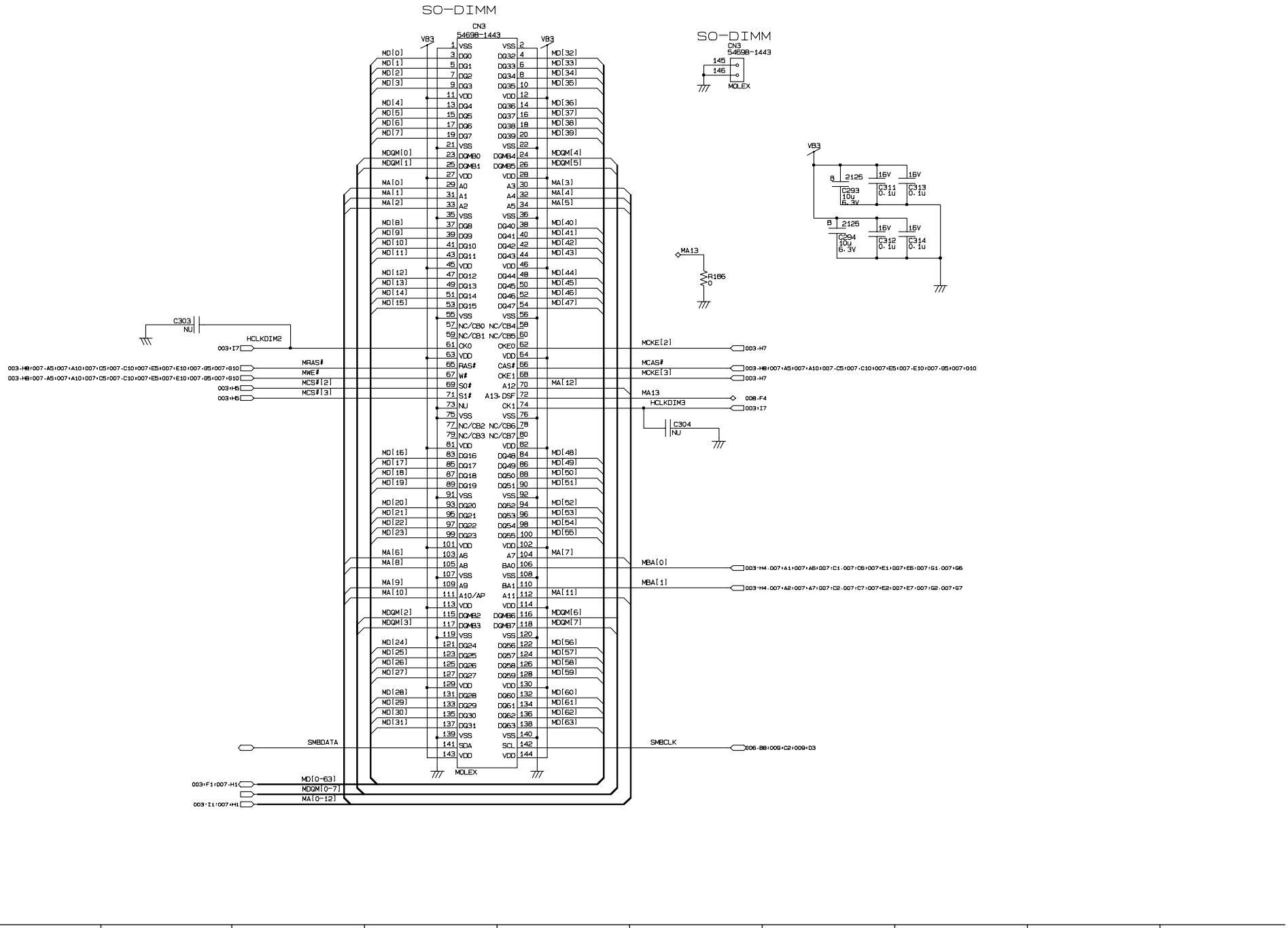
14.318MHz
MA729
SMBDATA
SMBCLK
VCRST#
SUSA#
SMLINK1
SMLINK0
STPPCI#
STPCPU#
VCTPWRGD#
CLKVCH
HCLKCPU
HCLKCPU#
HCLKHT
HCLKHT#
HCLKITP
HCLKITP#
OKGBOUT
CK666BIN
CK66HUB
PFCKICH
PFCKAPIC1
PFCKAPIC0
PCLKSIO1
PCLKSIO2
PCLKEC
PCLKCD1
PCLKCD2
PCLKVGA
PCLKEX1
PCLKEX2
PCLKFWH
CLKUSB
CLKDREF
VGA14M
CLKSIO1
CK14ICH
CLKSIO2
VC3
VB3

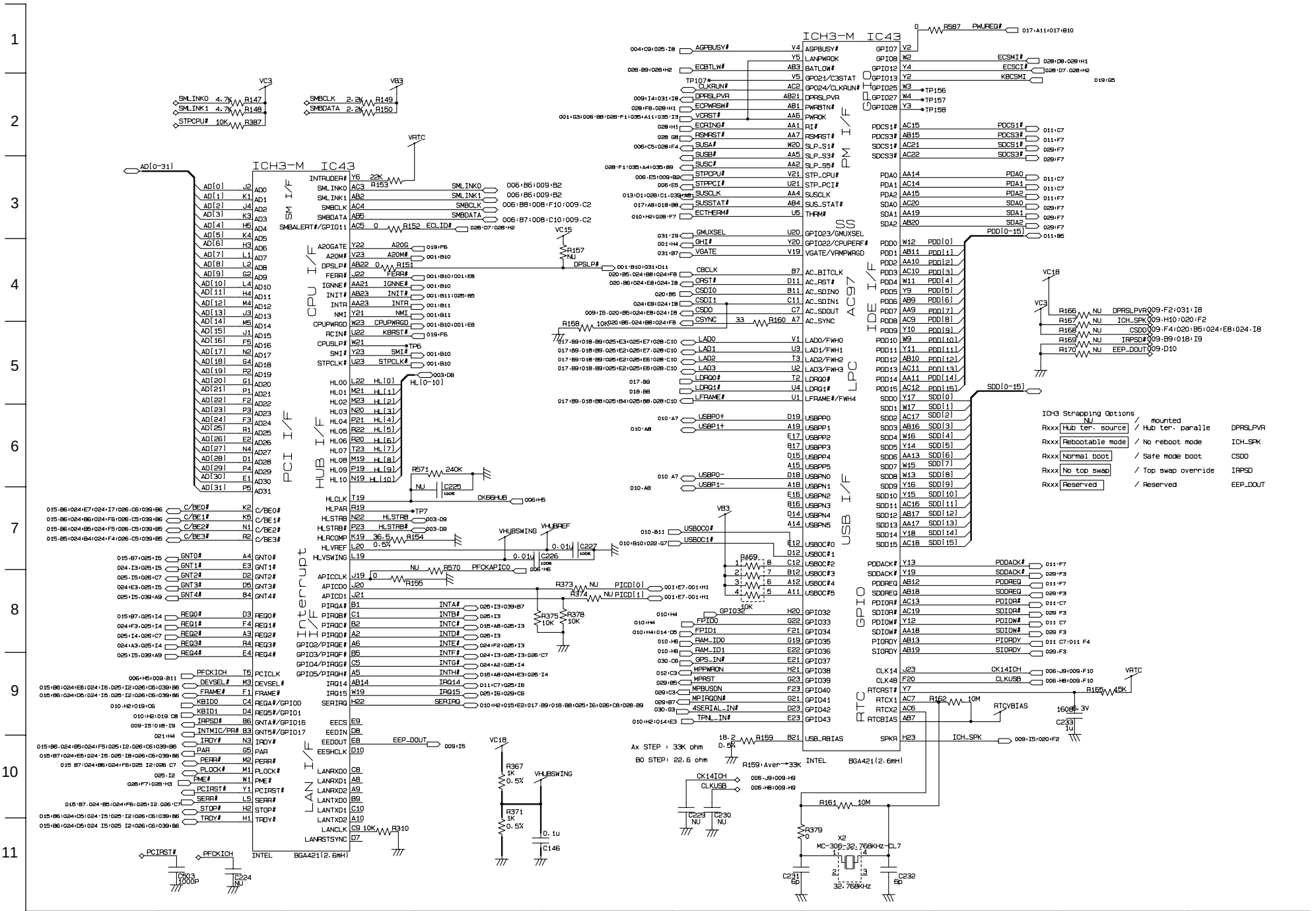
Main 7 On Board Memory



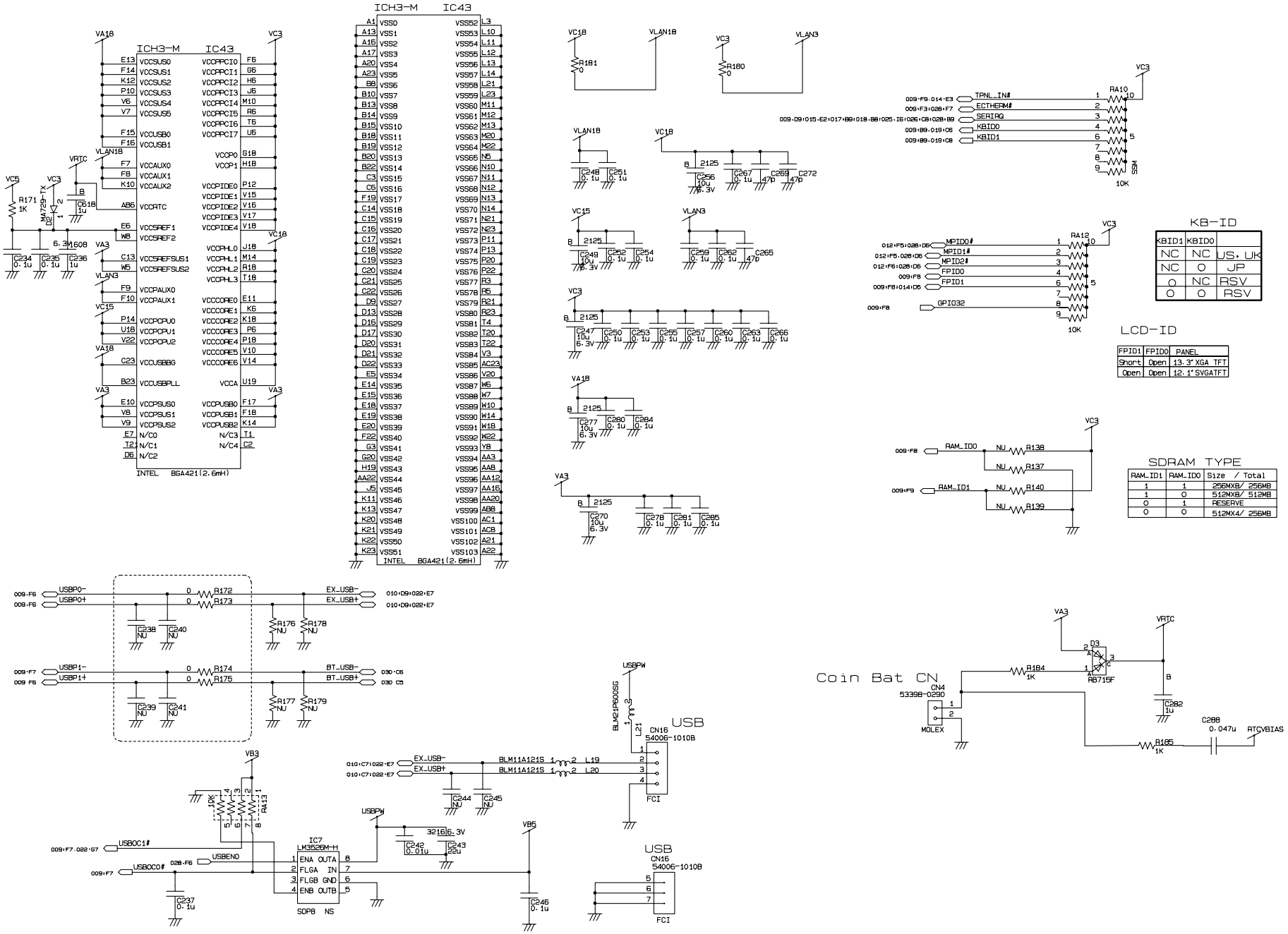
Main 8 SO DIMM



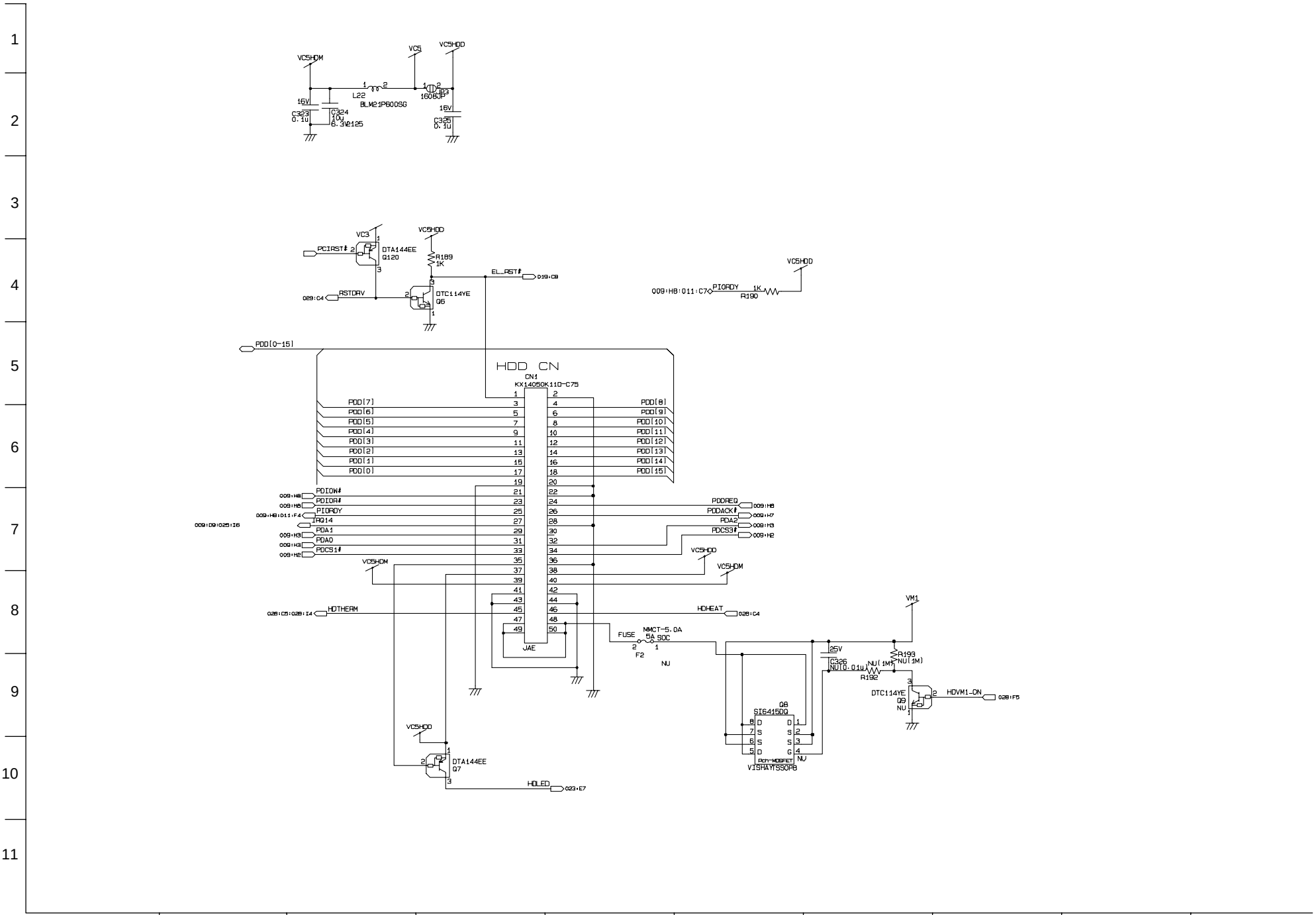
Main 9 ICH3, USB (1 / 2)



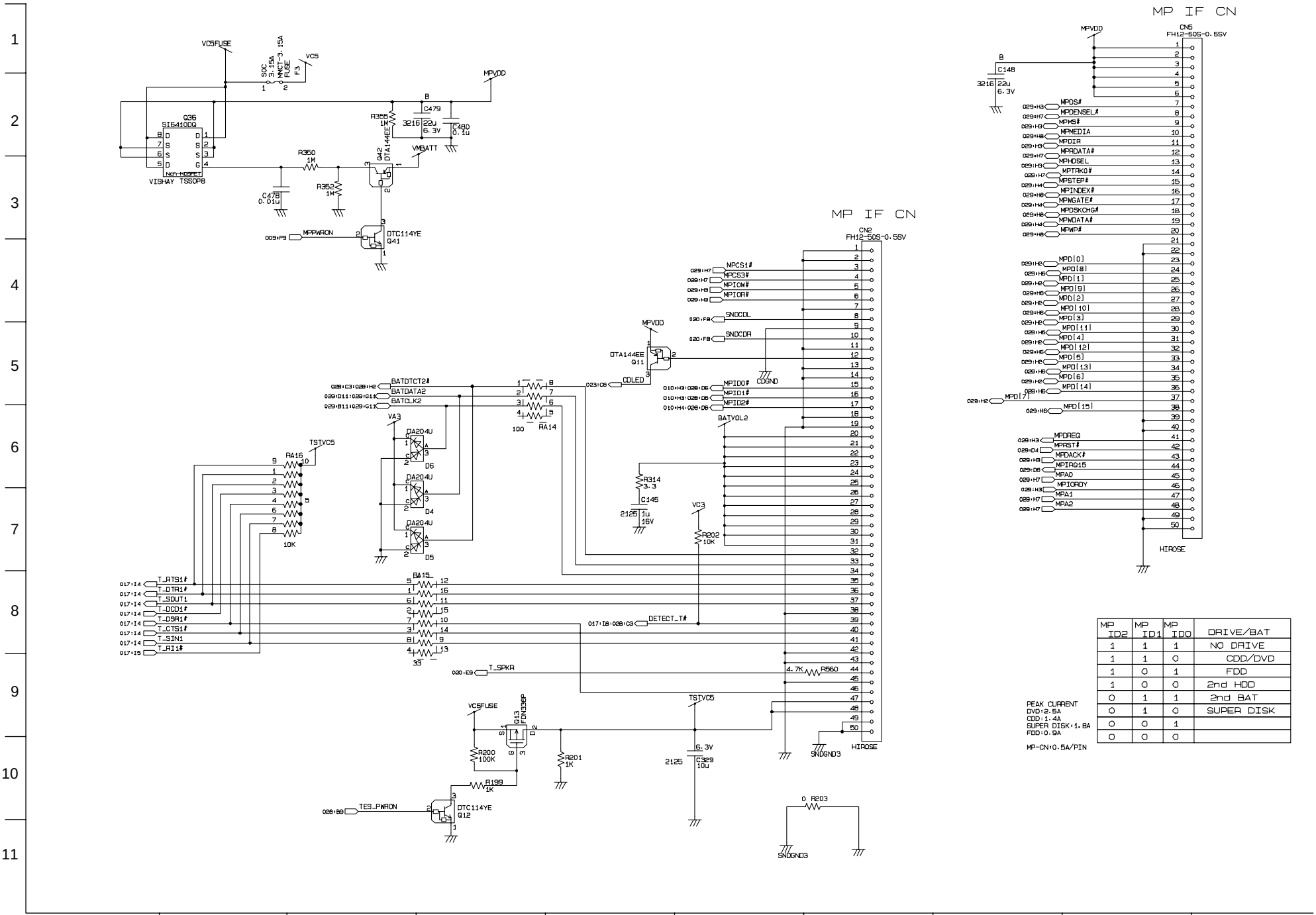
Main 10 ICH3, USB (2 / 2)



Main 11 HDD I/F



Main 12 MP, Tester CN

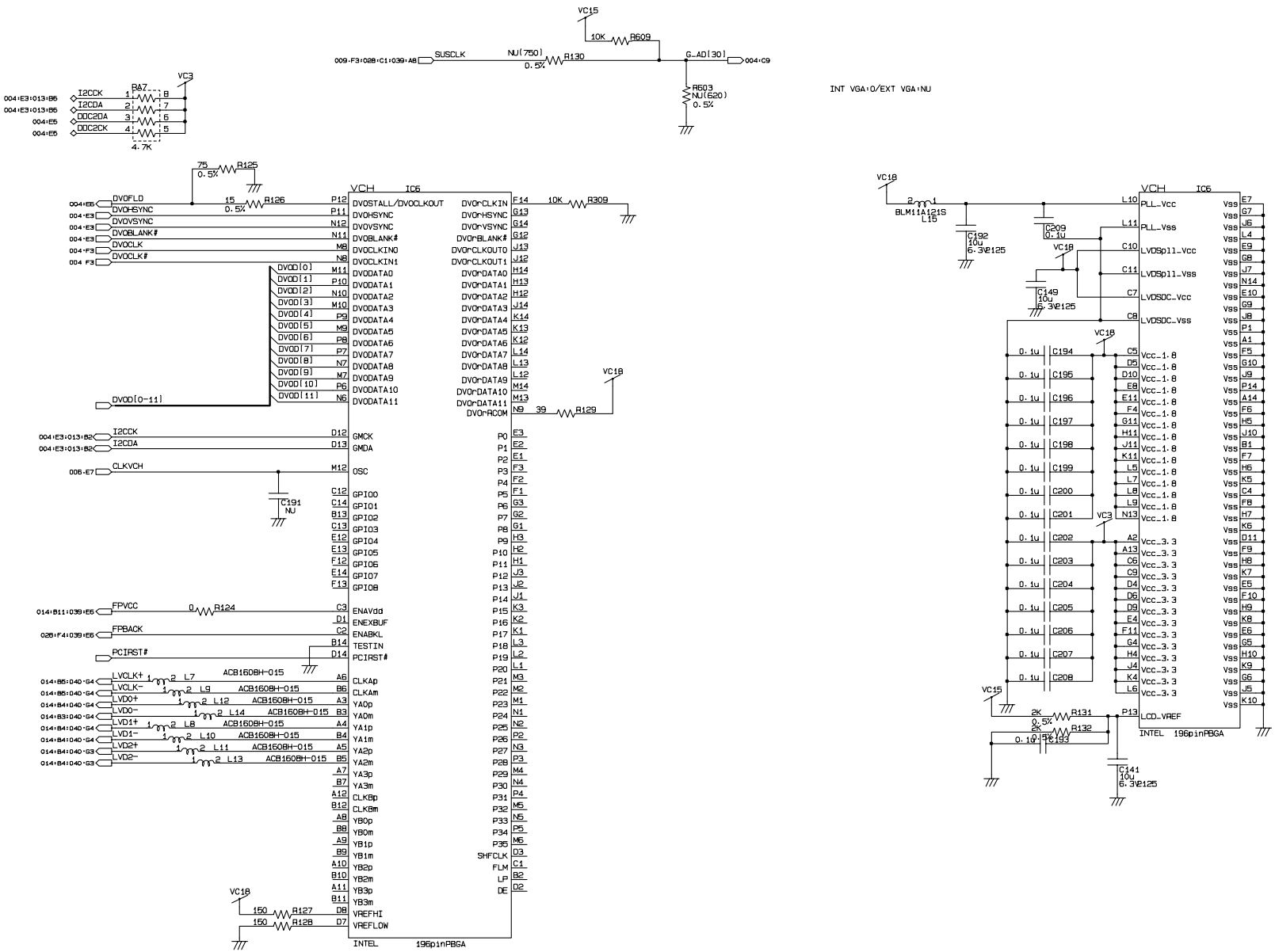


MP ID2	MP ID1	MP IDO	DRIVE/BAT
1	1	1	NO DRIVE
1	1	0	CDD/DVD
1	0	1	FDD
1	0	0	2nd HDD
0	1	1	2nd BAT
0	1	0	SUPER DISK
0	0	1	
0	0	0	

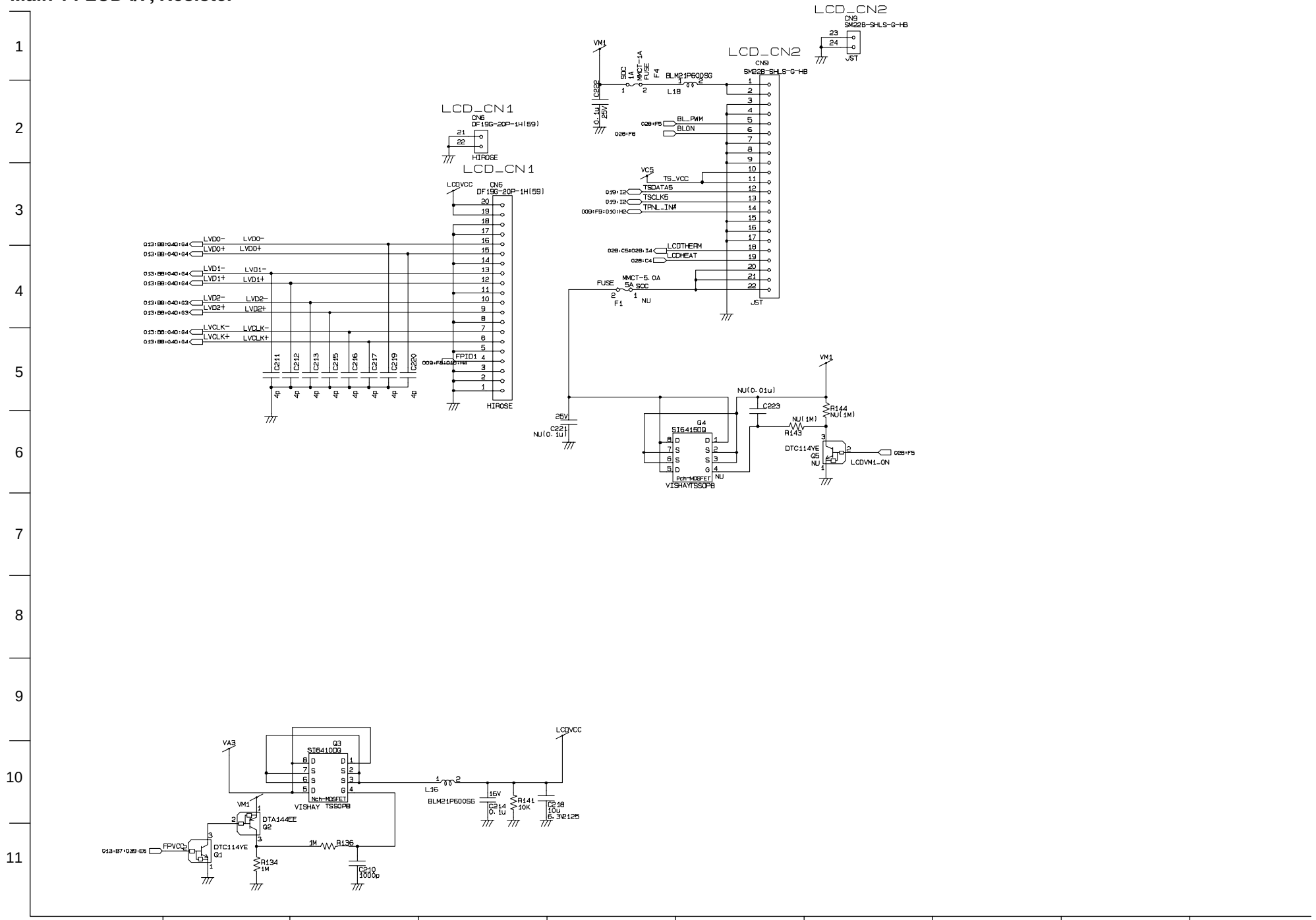
PEAK CURRENT
DVD:2.5A
CDD:1.4A
SUPER DISK:1.8A
FDD:0.9A

MP-CN:0.5A/PIN

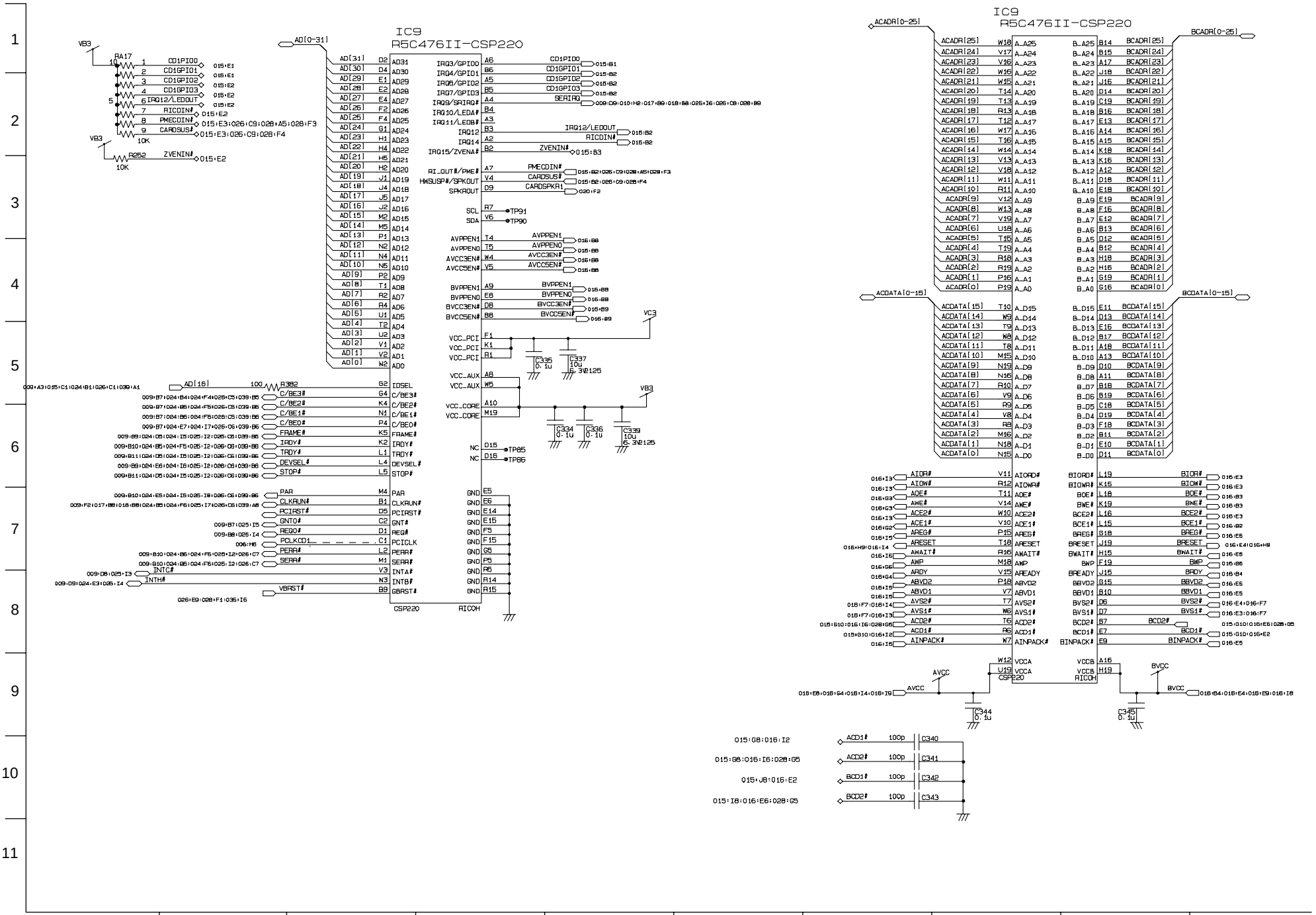
Main 13 VCH


VCH IC6
INTEL 196pinPBGA
SUSCLK
G_AD[30]
R609 10K
R130 NU(750) 0.5%
R603 NU(620) 0.5%
INT VGA:0/EXT VGA:NU
DVOFLD
DVOHSYNC
DVOVSYNC
DVOBLANK#
DVOCLK
DVOCLK#
DVOD[0-11]
I2CCK
I2CDA
CLKVCH
FPVCC
FPBACK
PCIRST#
R125 75 0.5%
R126 15 0.5%
R124 0
R127 150
R128 150
R129 39
R309 10K
C191 NU
C192 10u 6.3V1125
C209 0.1u
C149 10u 6.3V1125
C194 C195 C196 C197 C198 C199 C200 C201 C202 C203 C204 C205 C206 C207 C208 0.1u
C193 0.1u
C141 10u 6.3V1125
R131 2K 0.5%
R132 2K 0.5%
BLM11A121S L15
LCD_VREF
PLL_Vcc
PLL_Vss
LVDSpll_Vcc
LVDSpll_Vss
LVDSDC_Vcc
LVDSDC_Vss
Vcc_1.8
Vcc_3.3
Vss

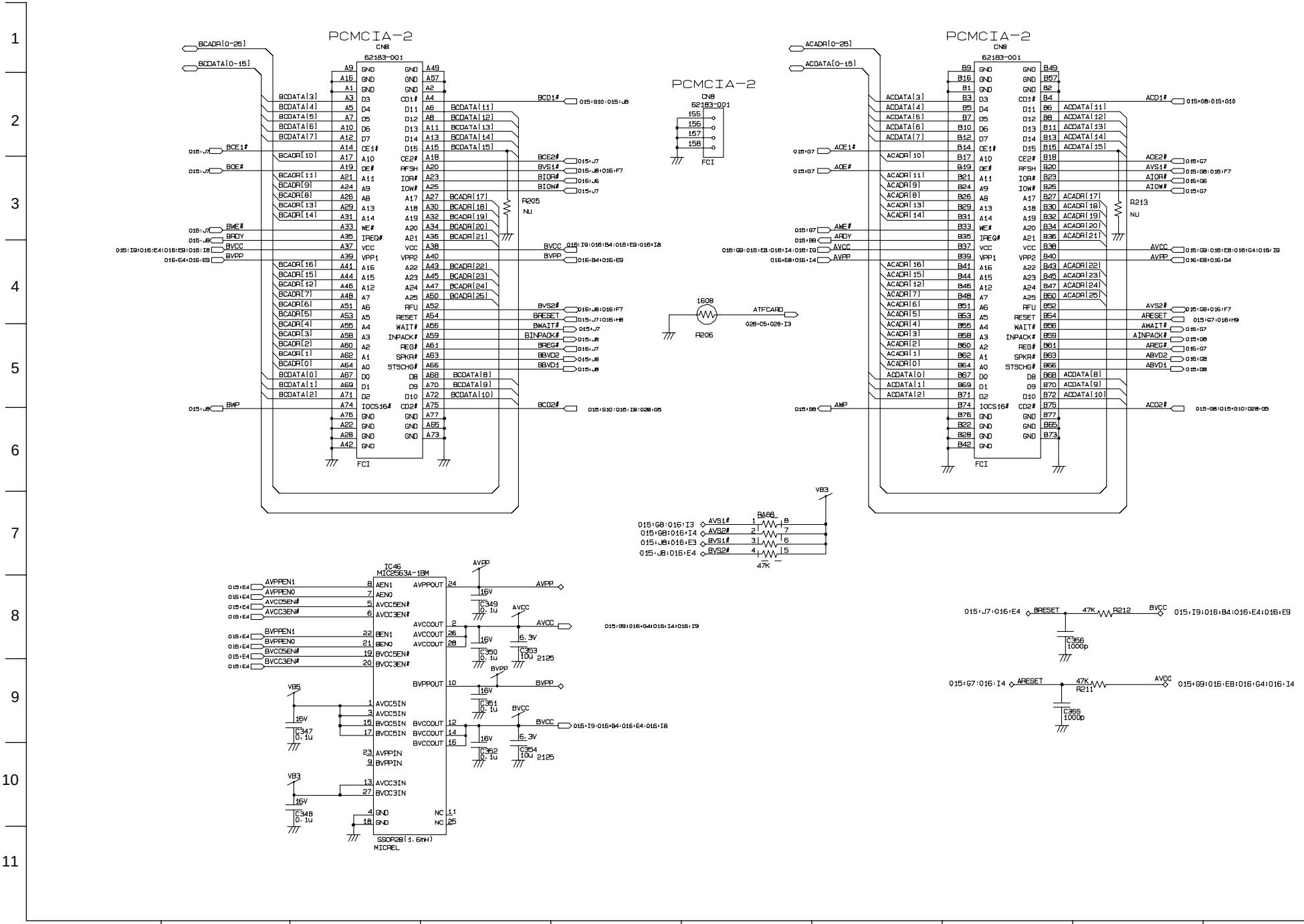
Main 14 LCD I/F, Resister



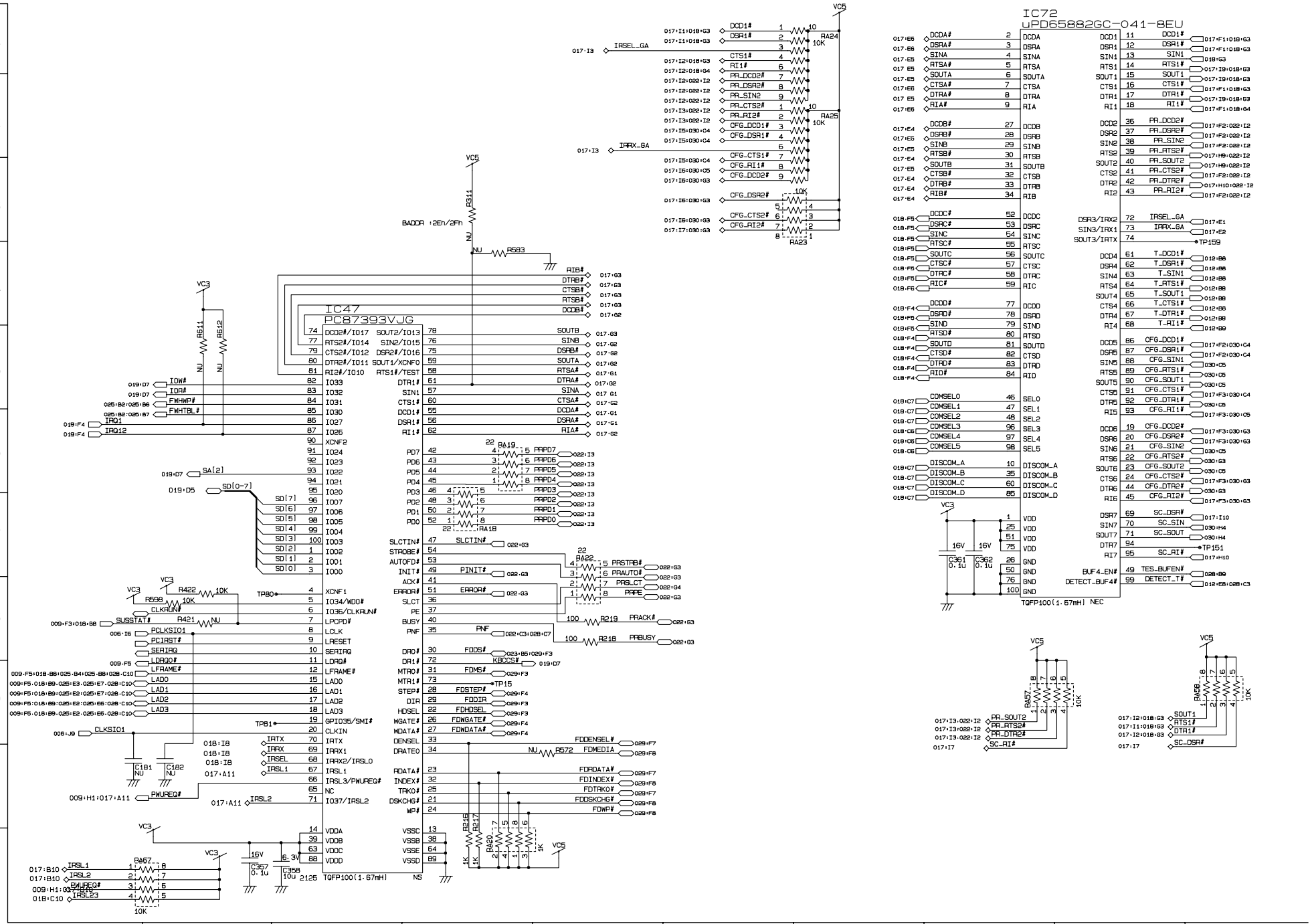
Main 15 PCIC-2Slot



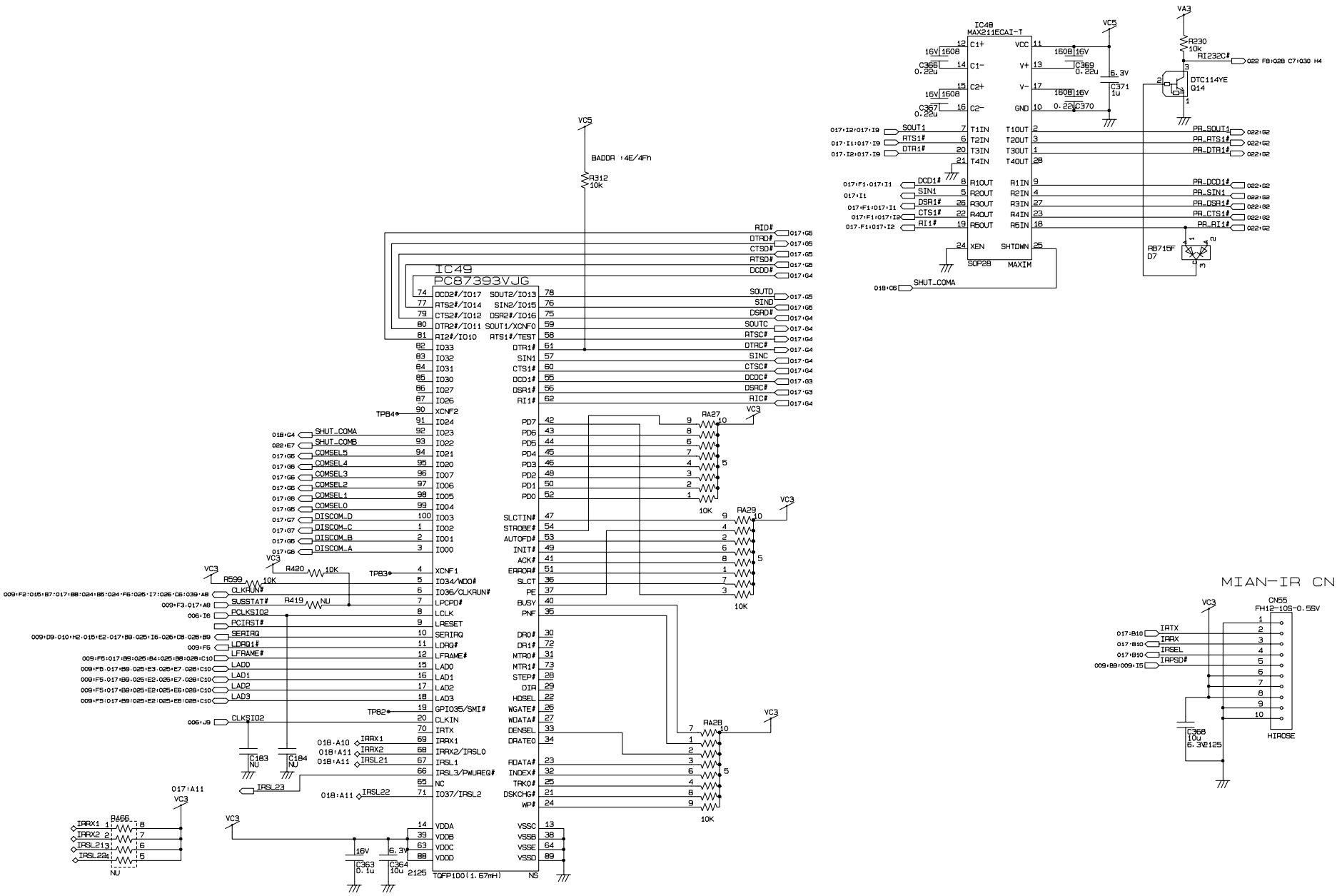
Main 16 PCMCIA-CN 2Slot



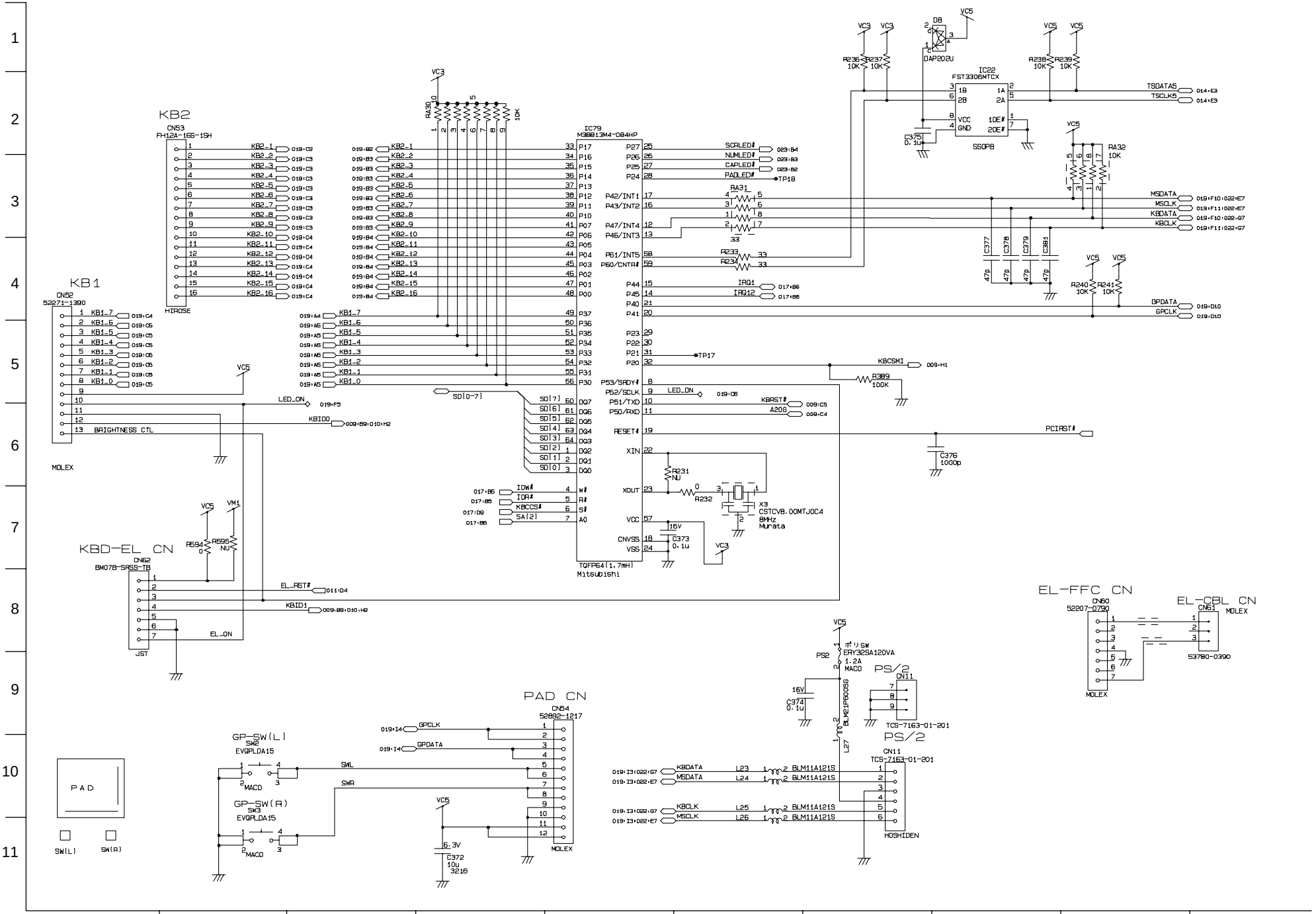
Main 17 Super-I/O-1, Comsel GA



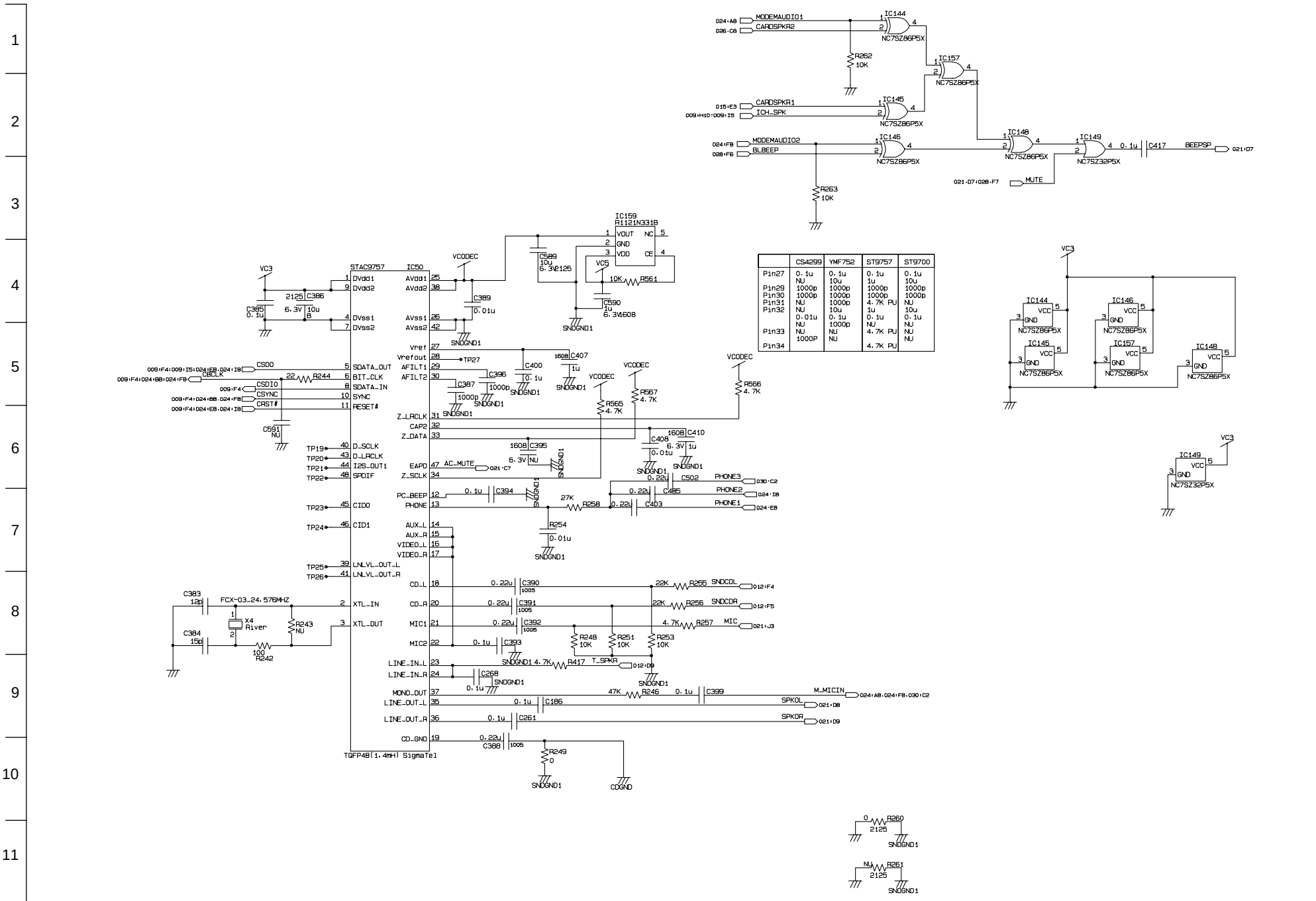
Main 18 S-I/0-2, IRDA, BUF



Main 19 KBC, KB Pad CN

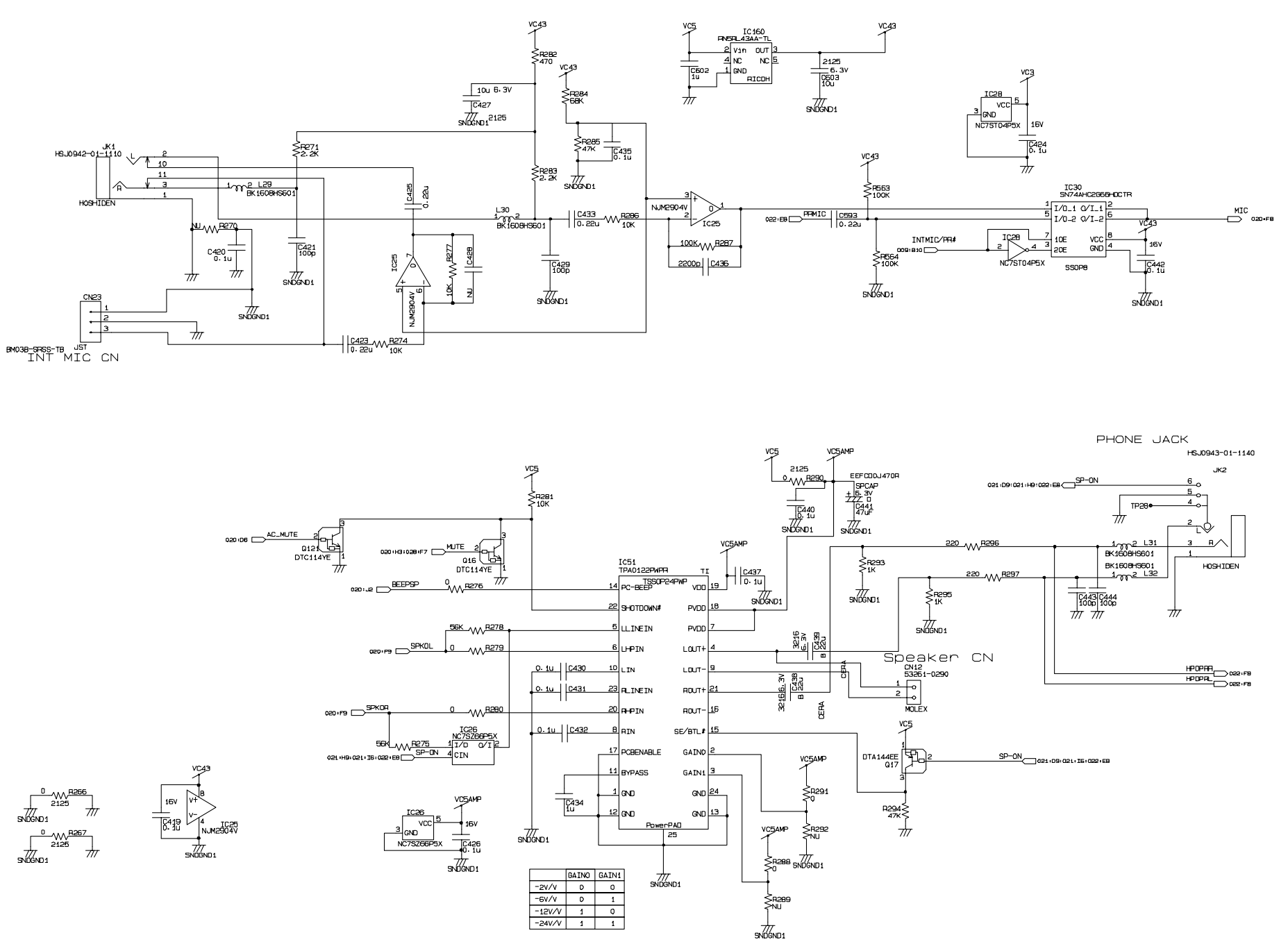


Main 20 Sound IC

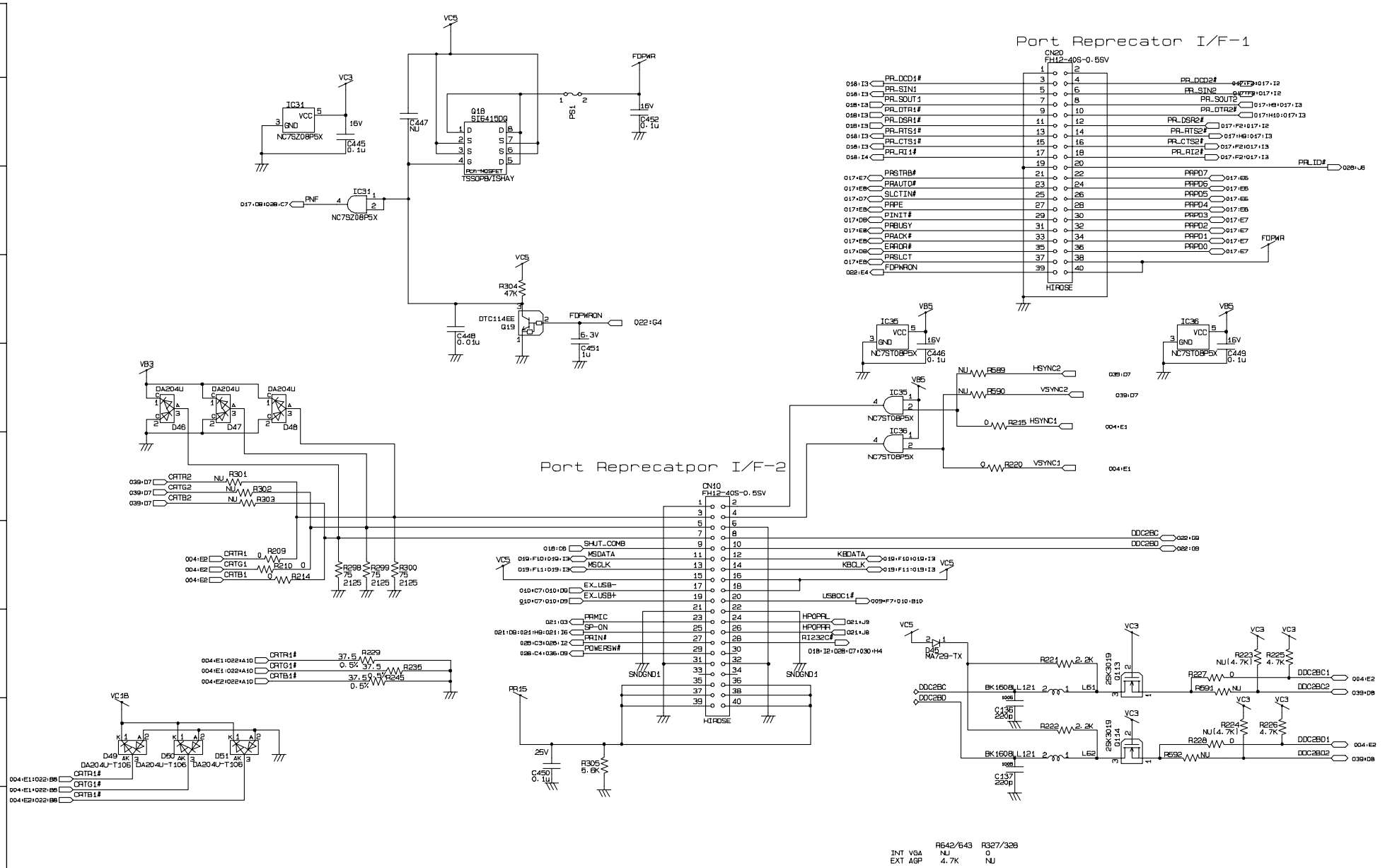


	CS4299	YMF752	ST9757	ST9700
Pin27	0.1u	0.1u	0.1u	0.1u
	NU	10u	1u	10u
Pin29	1000p	1000p	1000p	1000p
Pin30	1000p	1000p	1000p	1000p
Pin31	NU	1000p	4.7K PU	NU
Pin32	NU	10u	1u	10u
	0.01u	0.1u	0.1u	0.1u
	NU	1000p	NU	NU
Pin33	NU	NU	4.7K PU	NU
	1000P	NU		NU
Pin34			4.7K PU	

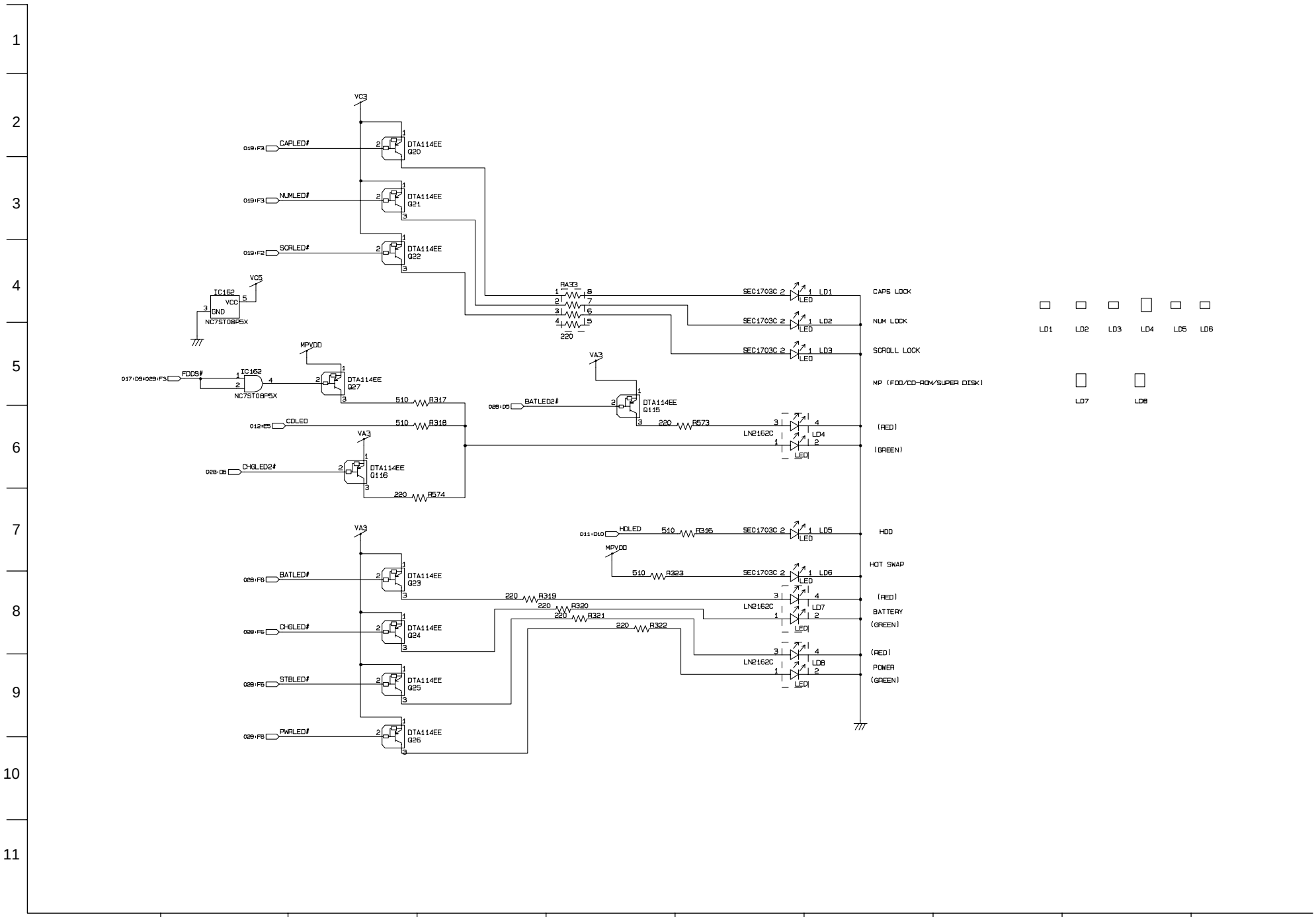
Main 21 Soundamp, Mic SPK



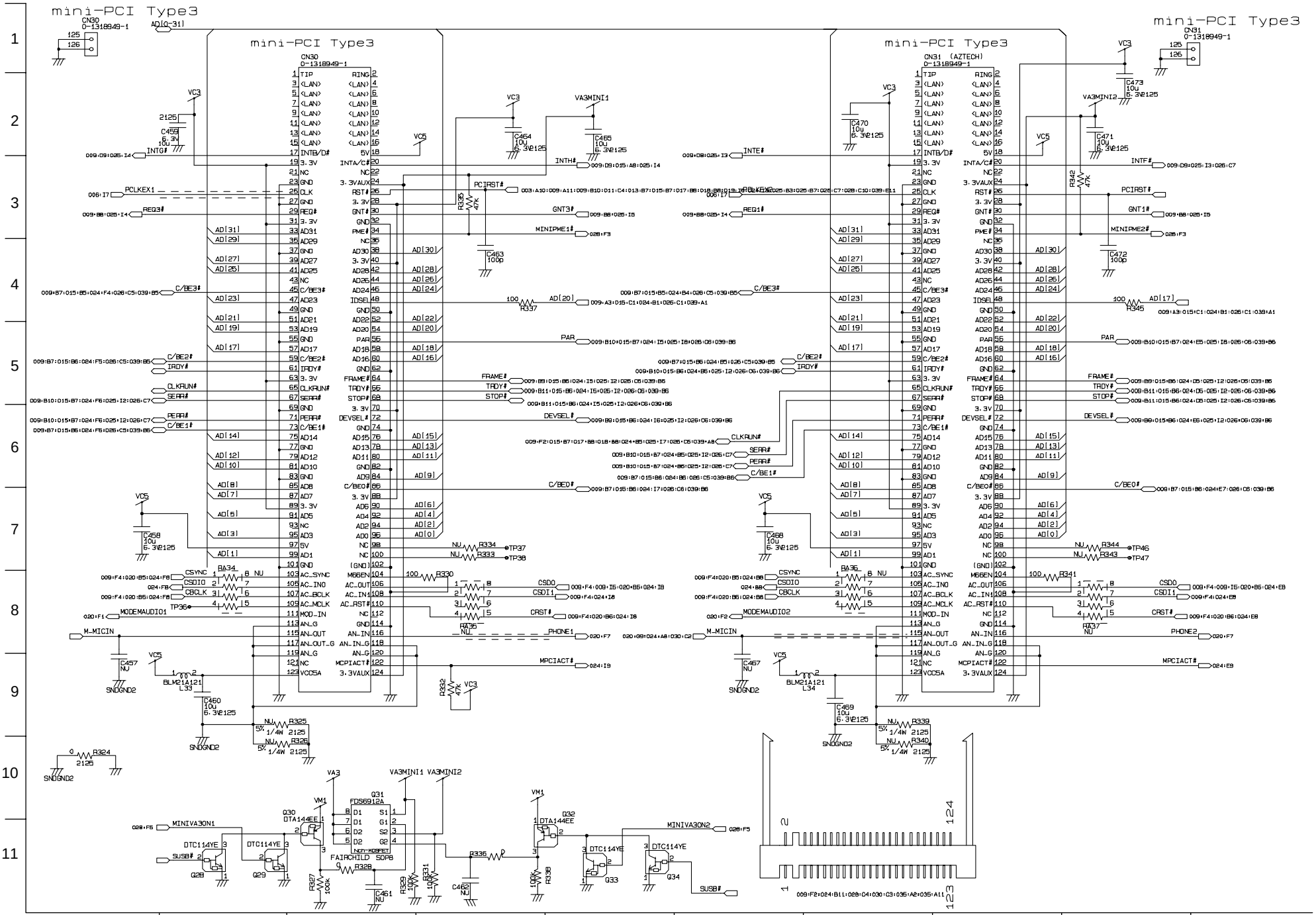
Main 22 Ext CN



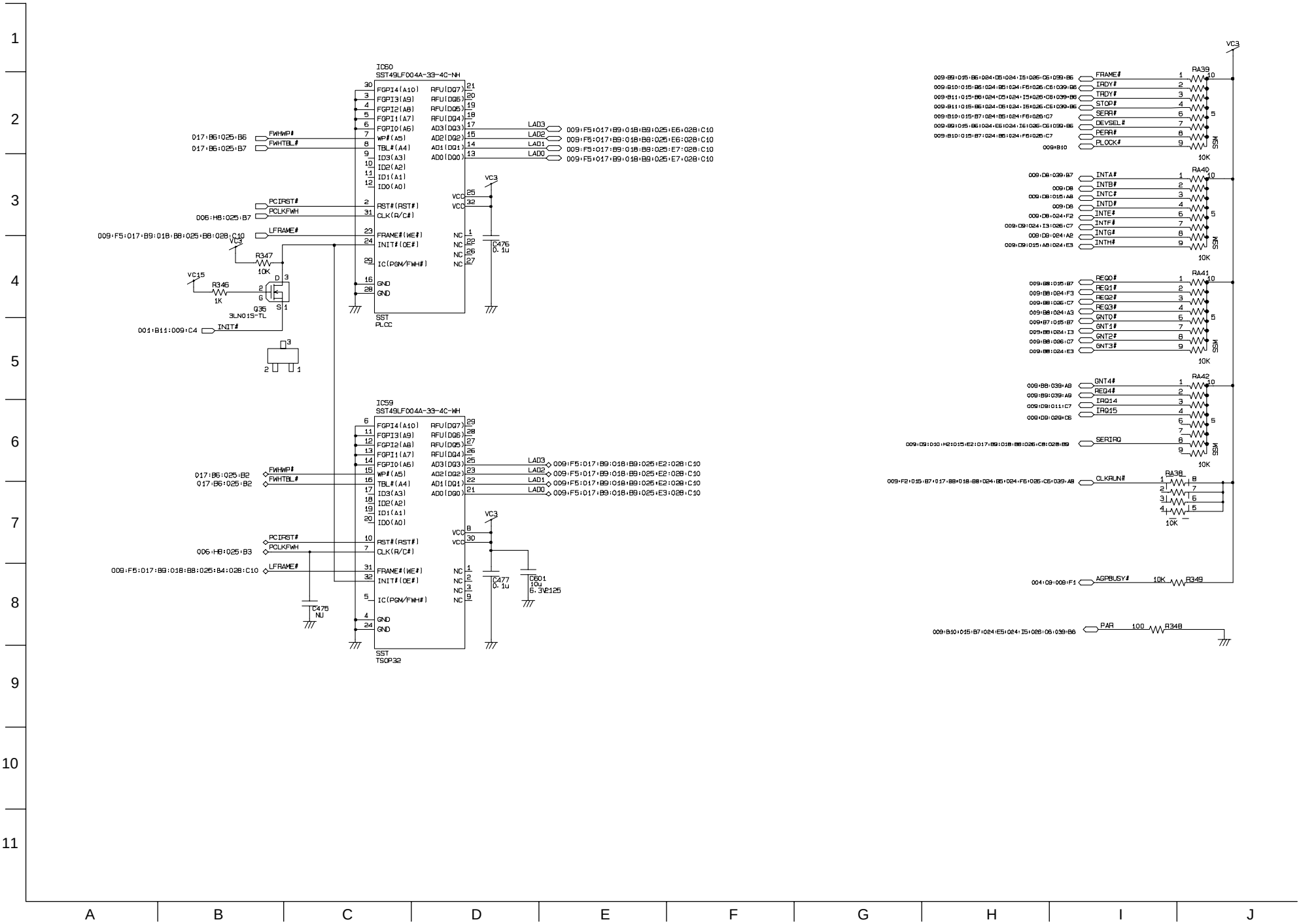
Main 23 LED


VC3
CAPLED#
NUMLED#
SCRLED#
DTA114EE
Q20
Q21
Q22
IC162
VCC
GND
NC7ST08P5X
VC5
RA33
220
SEC1703C
LED
LD1
LD2
LD3
CAPS LOCK
NUM LOCK
SCROLL LOCK
MPVDD
FDDS#
Q27
510
R317
CDLED
R318
CHGLED2#
Q116
220
R574
VA3
BATLED2#
Q115
R573
LN2162C
LD4
(RED)
(GREEN)
MP (FDD/CD-ROM/SUPER DISK)
LD7
LD8
HDLED
R316
LD5
HDD
R323
LD6
HOT SWAP
BATLED#
Q23
R319
R320
R321
R322
CHGLED#
Q24
STBLED#
Q25
PWRLED#
Q26
(RED)
BATTERY
(GREEN)
POWER
(GREEN)
LD1
LD2
LD3
LD4
LD5
LD6

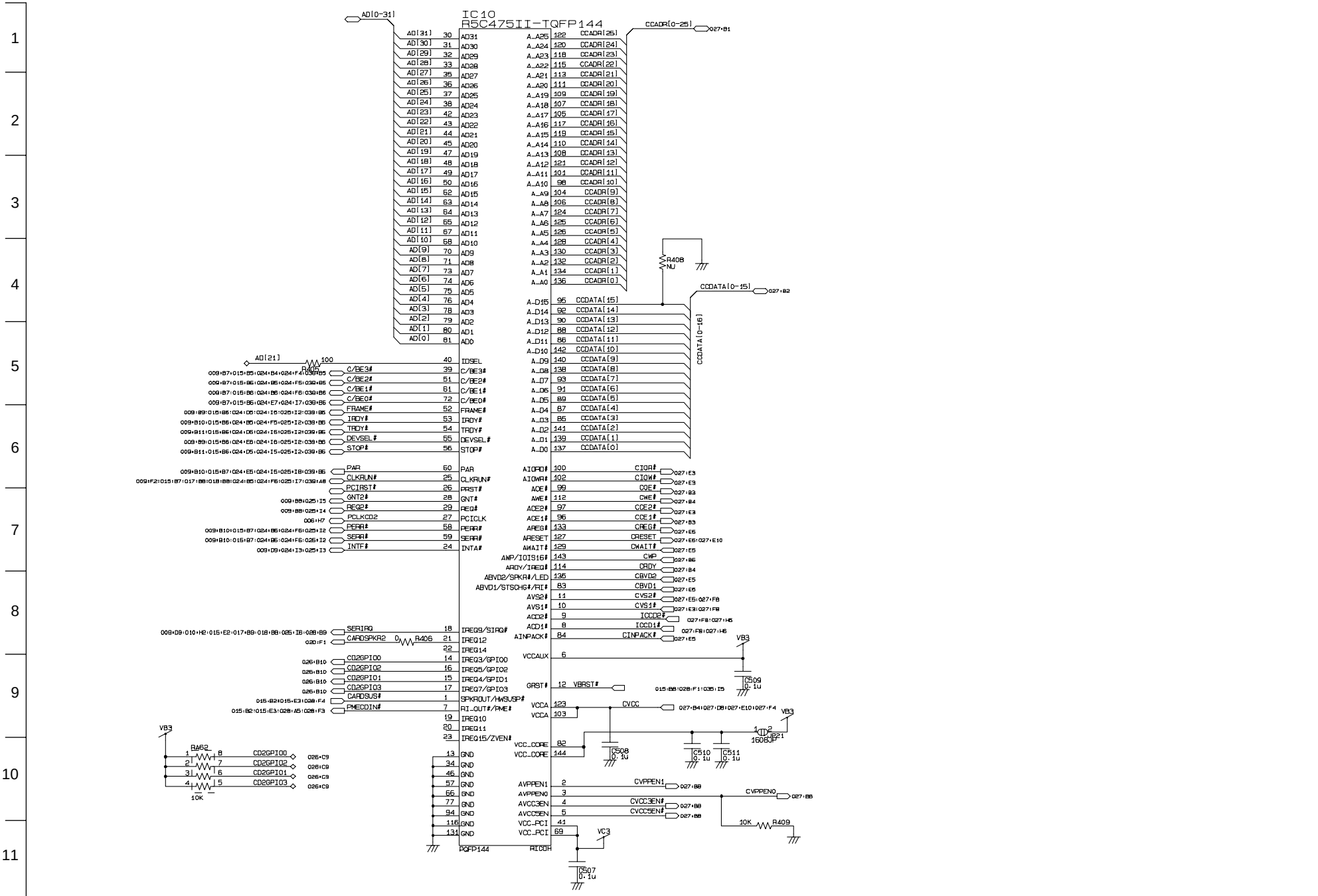
Main 24 Mini PCI



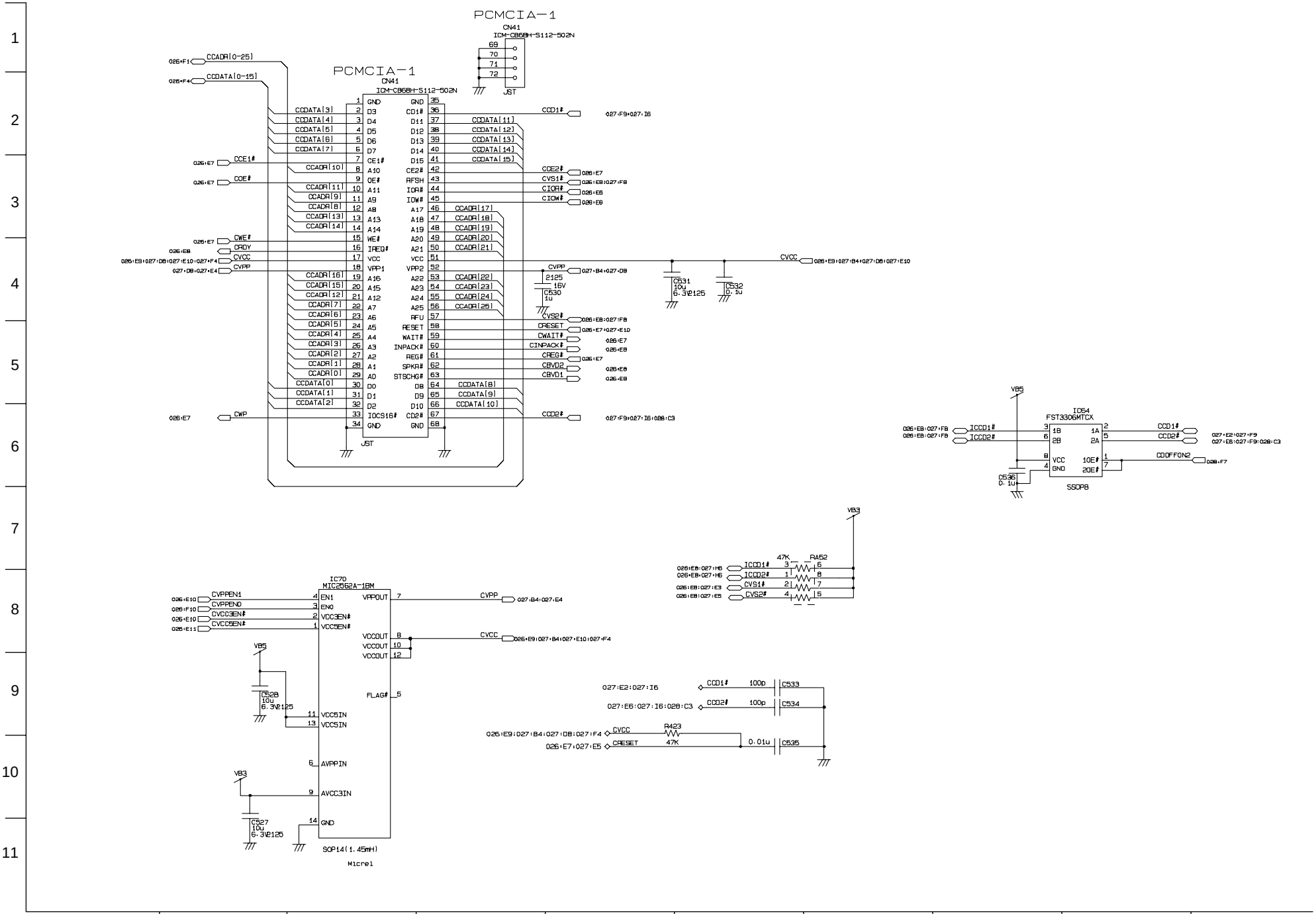
Main 25 Bios, Resistor



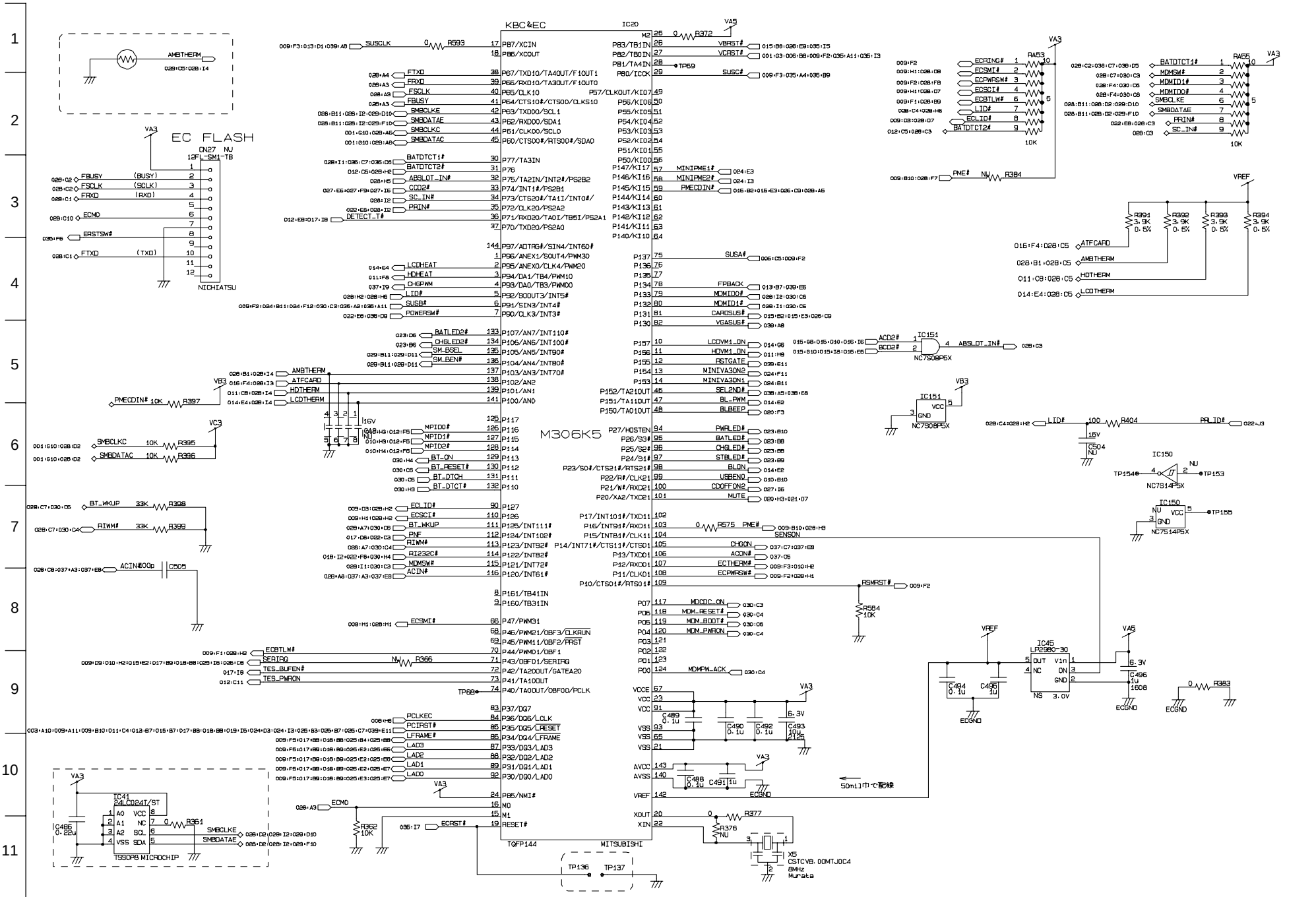
Main 26 PCIC 1Slot(1394)



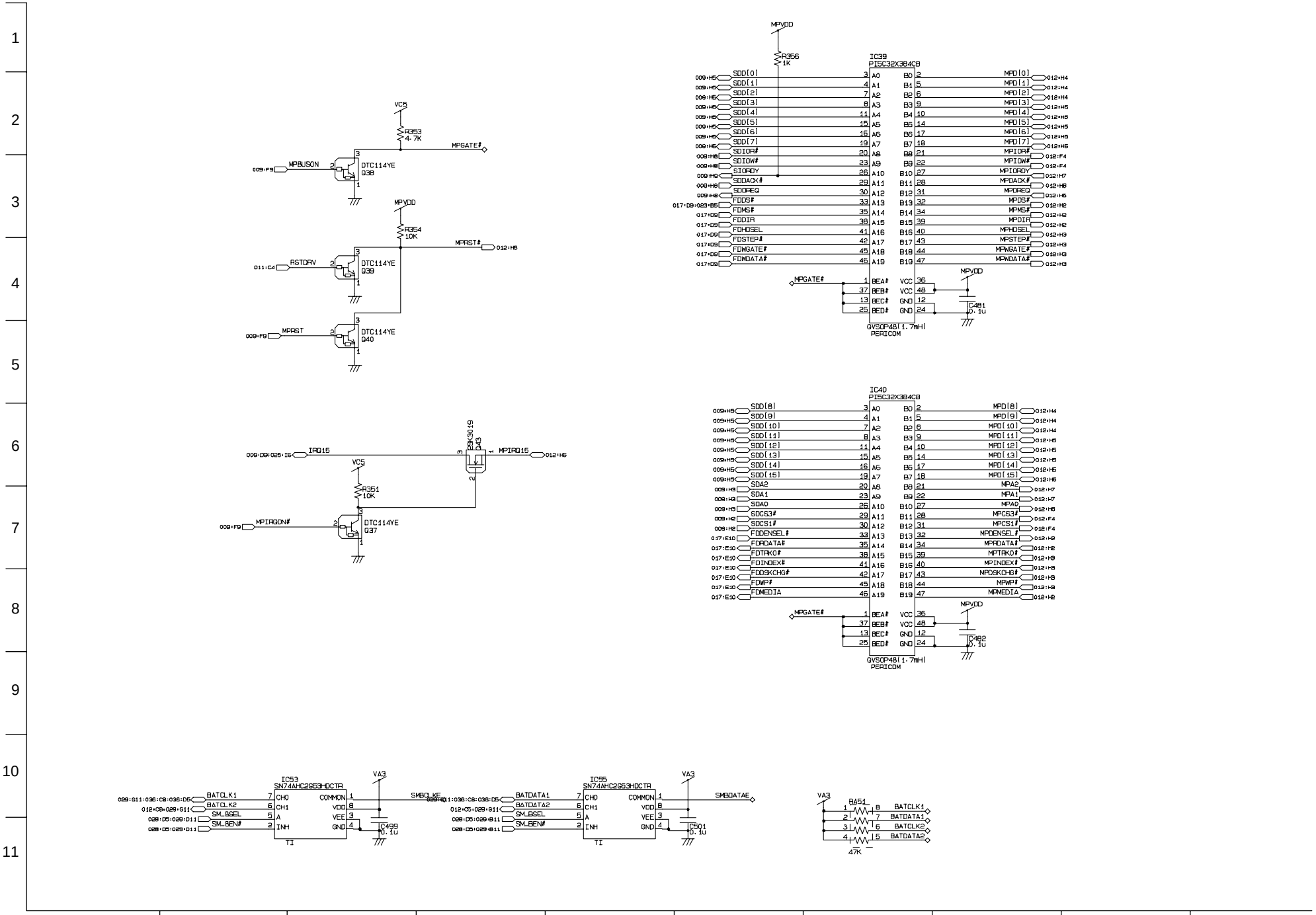
Main 27 PCMCIA 1Slot



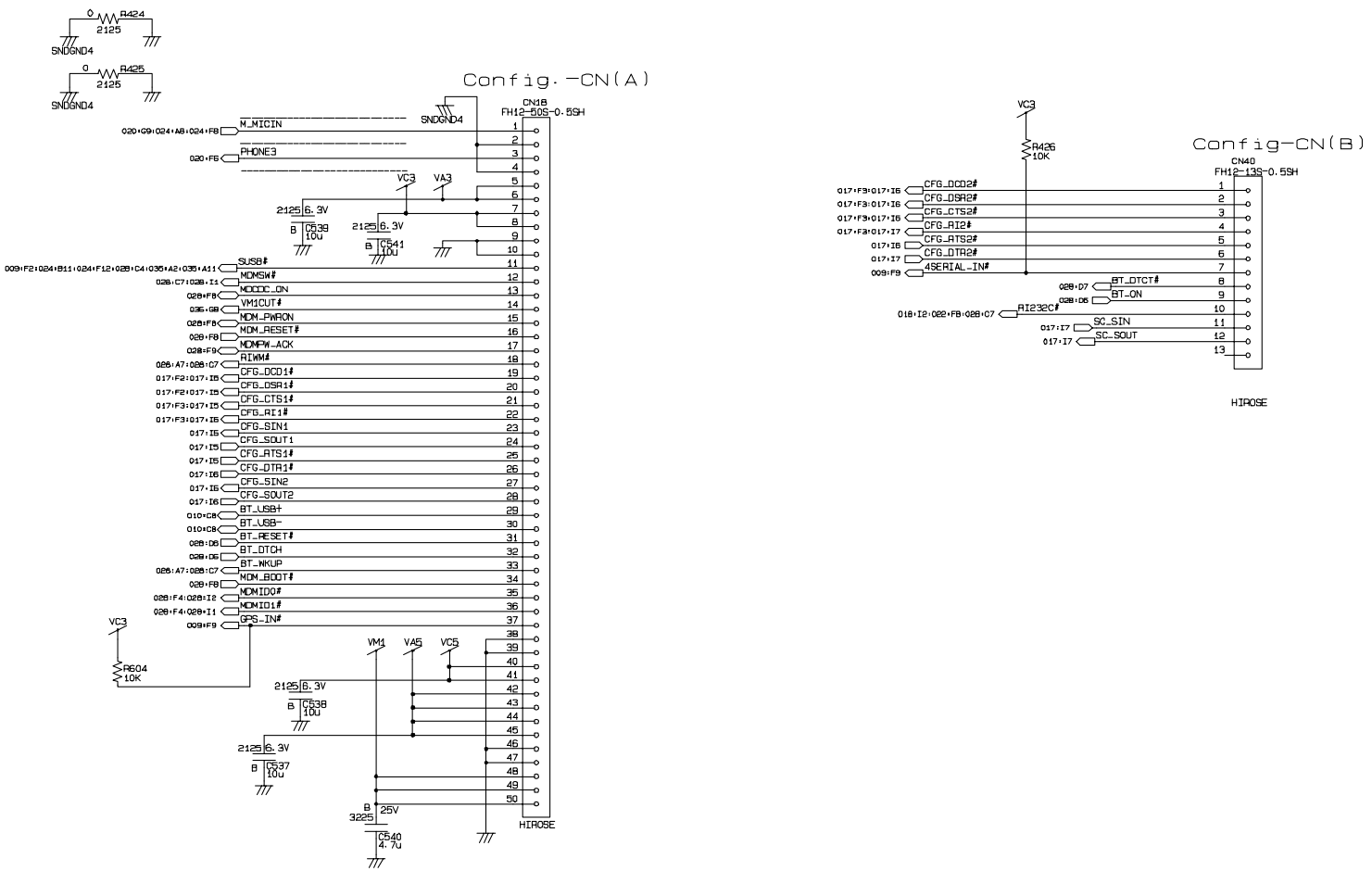
Main 28 PME&KBC, LID



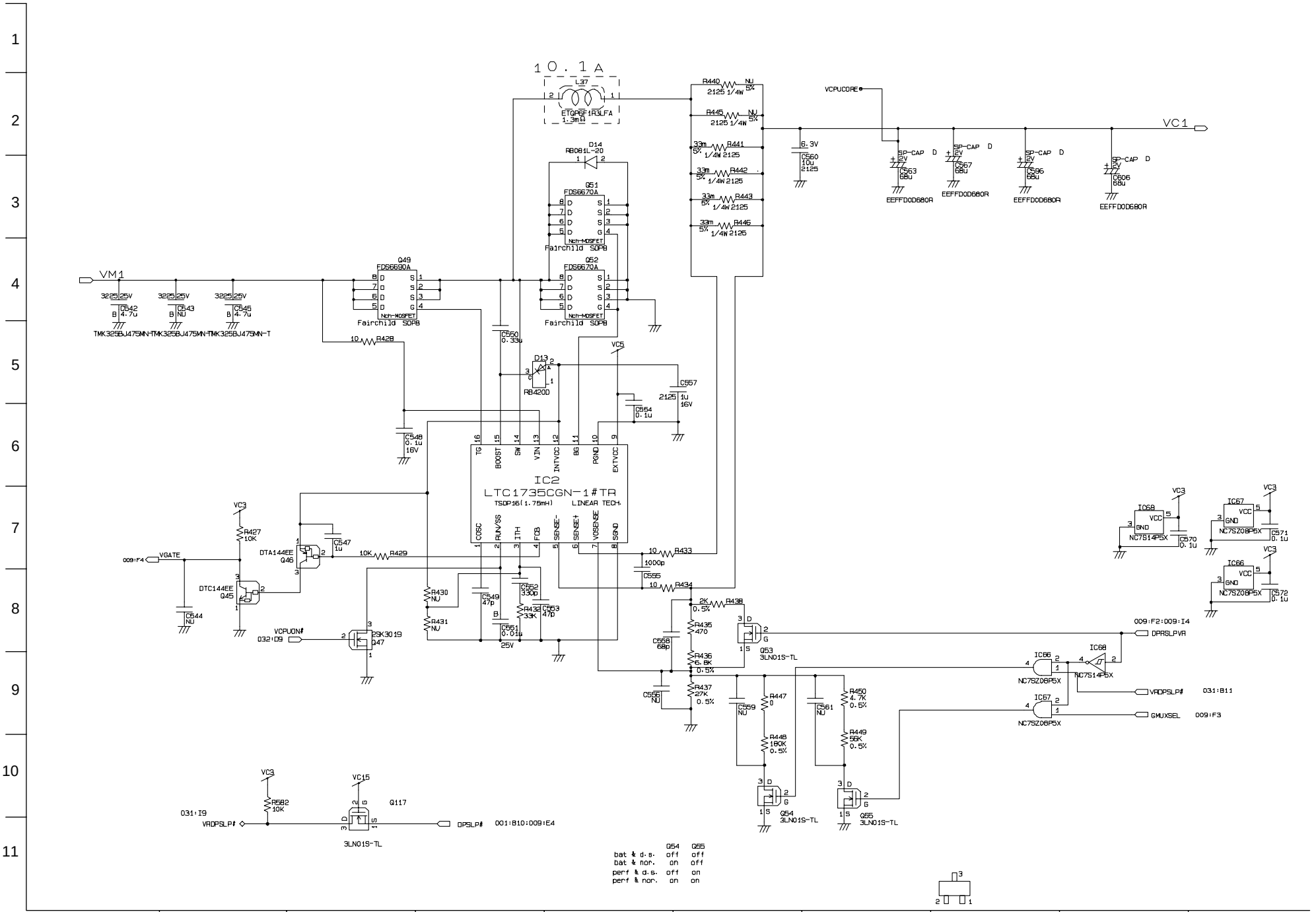
Main 29 Hot Swap



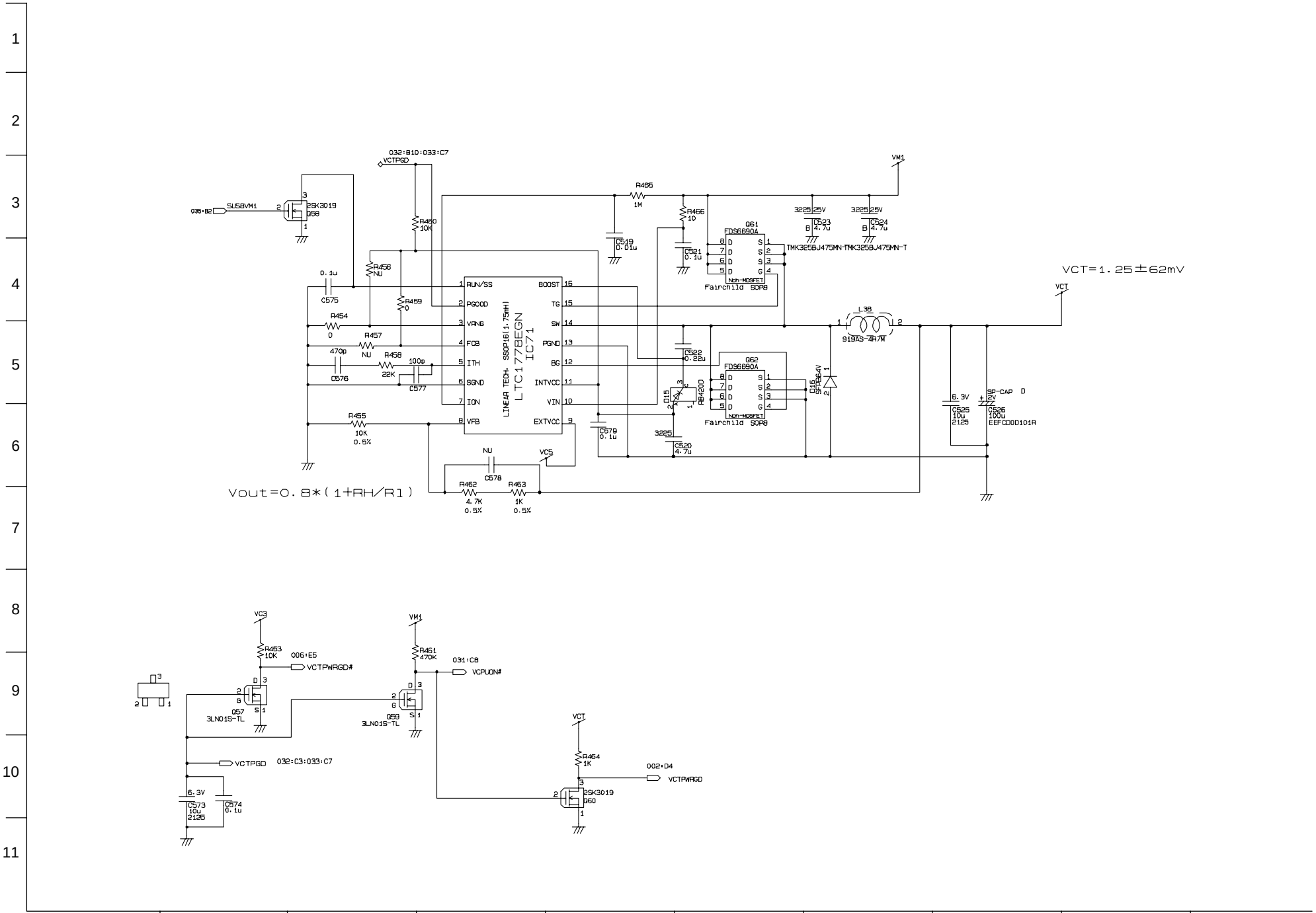
Main 30 Wireless module CN



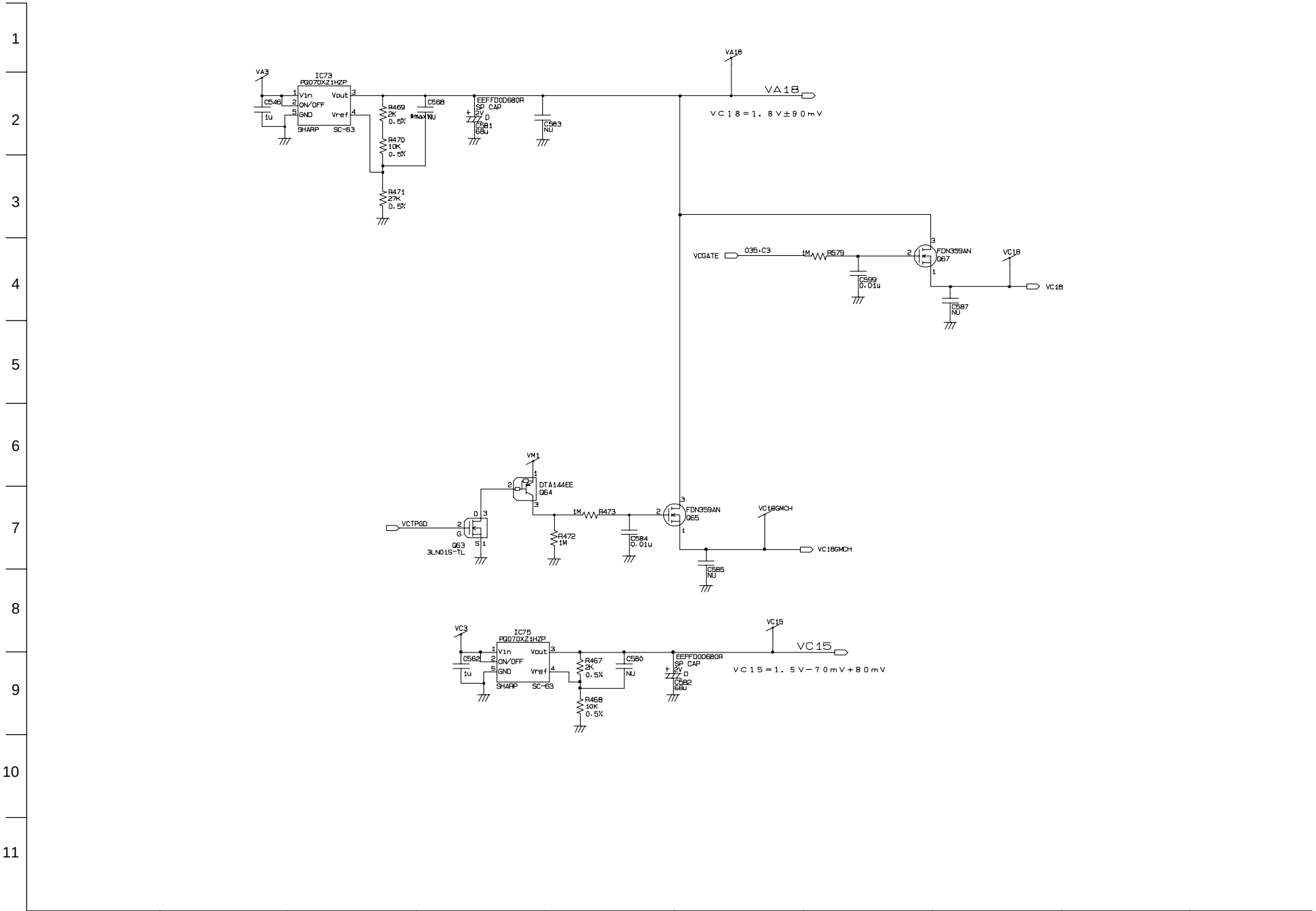
Main 31 VC1


10.1A
L37
ETQP6F1R3LFA
1.3mM
R440 NU 2125 1/4W 5%
R445 NU 2125 1/4W 5%
R441 33m 5% 1/4W 2125
R442 33m 5% 1/4W 2125
R443 33m 5% 1/4W 2125
R446 33m 5% 1/4W 2125
VCPUCORE
VC1
6.3V
C560 10u 2125
SP-CAP D 2V C563 680u EEFFD0D680R
SP-CAP D 2V C567 680u EEFFD0D680R
SP-CAP D 2V C596 680u EEFFD0D680R
SP-CAP D 2V C606 680u EEFFD0D680R
D14 RB081L-20
Q51 FDS6670A Nch-MOSFET Fairchild SOP8
Q52 FDS6670A Nch-MOSFET Fairchild SOP8
Q49 FDS6690A Nch-MOSFET Fairchild SOP8
VM1
3225 25V C542 4.7u
3225 25V C543 NU
3225 25V C545 4.7u
TMK325BJ475MN-TMK325BJ475MN-TMK325BJ475MN-T
R428 10
C550 0.33u
D13 RB420D
VC5
C557 2125 1u 16V
C564 0.1u
C548 0.1u 16V
IC2
LTC1735CGN-1#TR
TSOP16(1.75mH) LINEAR TECH.
TG BOOST SW VIN INTVCC BG PGND EXTVCC
COSC RUN/SS ITH FCB SENSE- SENSE+ VOSENSE SGND
VC3
R427 10K
DTA144EE Q46
C547 1u
10K R429
VGATE
009:F4
DTC144EE Q45
C544 NU
R430 NU
R431 NU
C549 47p
C550 330p
R432 33K
C553 47p
C551 0.01u 25V
VCPUON#
032:D9
2SK3019 Q47
R433 10 1000p C555
R434 10
2K 0.5% R438
R435 470
R436 6.8K 0.5%
C558 68p
R437 27K 0.5%
C556 NU
C559 NU
C561 NU
R447 0
R448 180K 0.5%
R450 4.7K 0.5%
R449 56K 0.5%
Q53 2LN01S-TL
Q54 2LN01S-TL
Q55 2LN01S-TL
009:F2:009:I4
DPRSLPVR
IC66 NC7SZ08P5X
IC68 NC7S14P5X
VRDPSLP#
031:B11
IC67 NC7SZ08P5X
GMUXSEL
009:F3
IC68 NC7S14P5X C570 0.1u
IC67 NC7SZ08P5X C571 0.1u
IC66 NC7SZ08P5X C572 0.1u
VC15
R582 10K
Q117 2LN01S-TL
031:I9
VRDPSLP#
DPSLP#
001:B10:009:E4
Q54 Q55
bat & d.s. off off
bat & nor. on off
perf & d.s. off on
perf & nor. on on

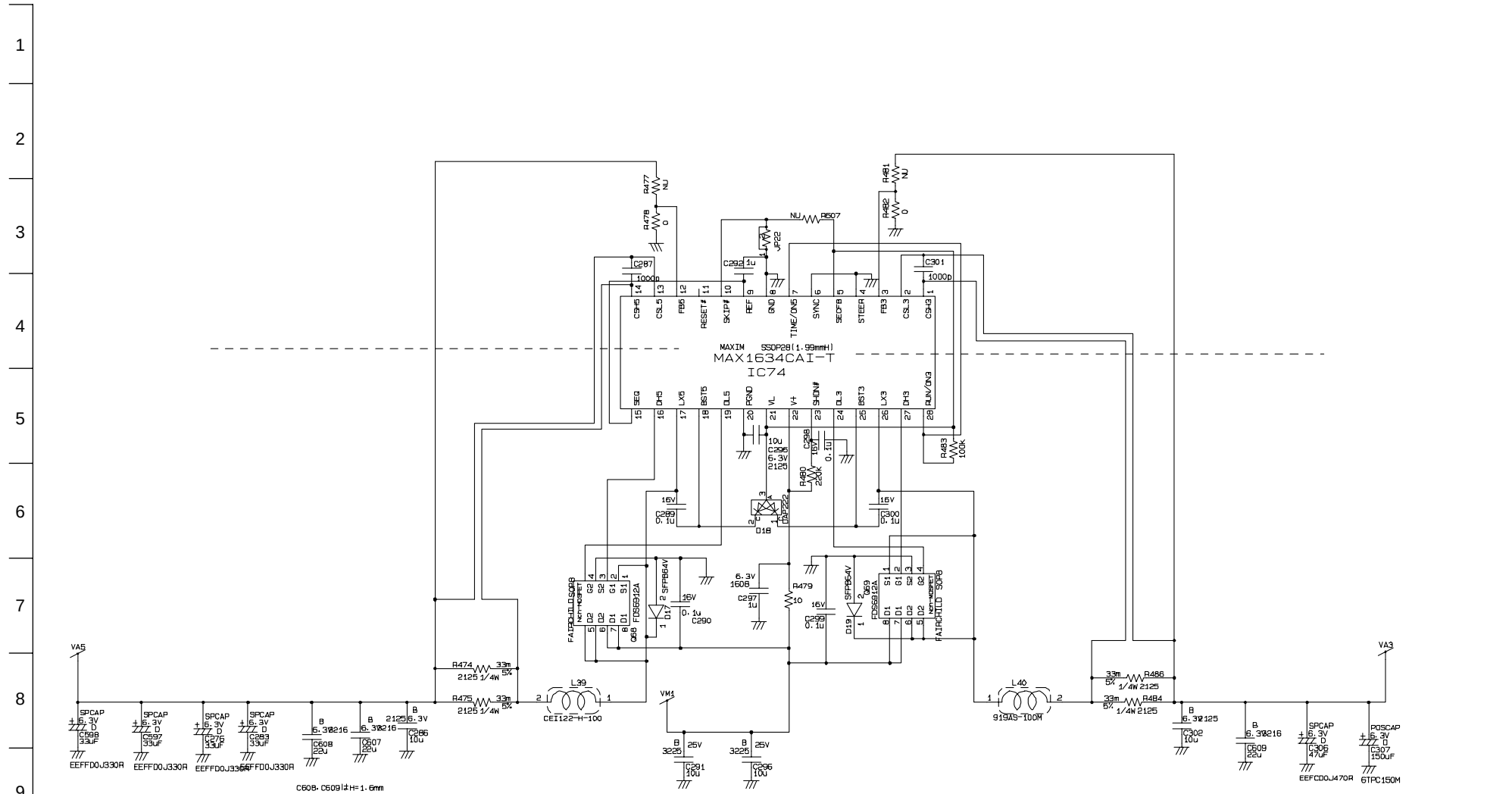
Main 32 VCT


032:B10:D33:C7
VCTPGD
VM1
R465
1M
R466
10
3225.25V
C523
4.7u
C524
4.7u
035:B2
SUSBVM1
2SK3019
Q58
R460
10K
C519
0.01u
C521
0.1u
Q61
FDS6690A
TMK325BJ475MN-TMK325BJ475MN-T
Non-MOSFET
Fairchild SOP8
VCT=1.25±62mV
VCT
0.1u
C575
R456
NU
R459
0
R454
0
R457
NU
470p
C576
R458
22K
100p
C577
RUN/SS
PGOOD
VRNG
FCB
ITH
SGND
ION
VFB
BOOST
TG
SW
PGND
BG
INTVCC
VIN
EXTVCC
LINEAR TECH. SSOP16(1.75MM)
LTC1778EGN
IC71
L38
919AS-4R7M
C522
0.22u
Q62
FDS6690A
D15
RB420D
D16
SF1B6.4V
C579
0.1u
3225
C520
4.7u
6.3V
C525
10u
2125
SP-CAP D
2V
C526
100u
EEFCD0D101R
R455
10K
0.5%
NU
C578
VC5
R462
4.7K
0.5%
R463
1K
0.5%
Vout=0.8*(1+RH/R1)
VC3
R453
10K
Q06:E5
VCTPWRGD#
VM1
R461
470K
031:C8
VCPUON#
Q57
3LN01S-TL
Q59
3LN01S-TL
VCTPGD
032:C3:033:C7
6.3V
C573
10u
2125
C574
0.1u
VCT
R454
1K
002:D4
VCTPWRGD
2SK3019
Q60

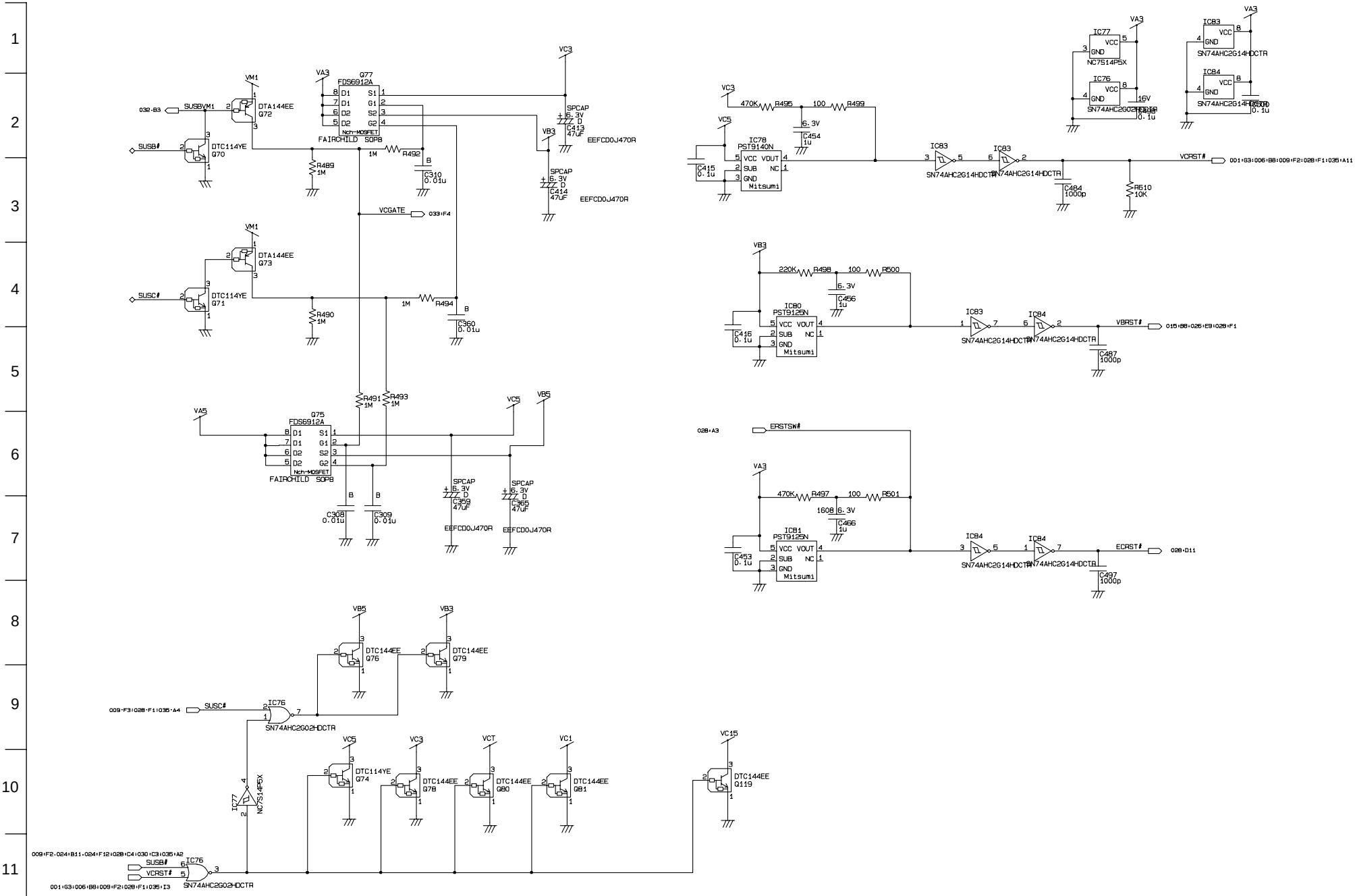
Main 33 VA18, VC15



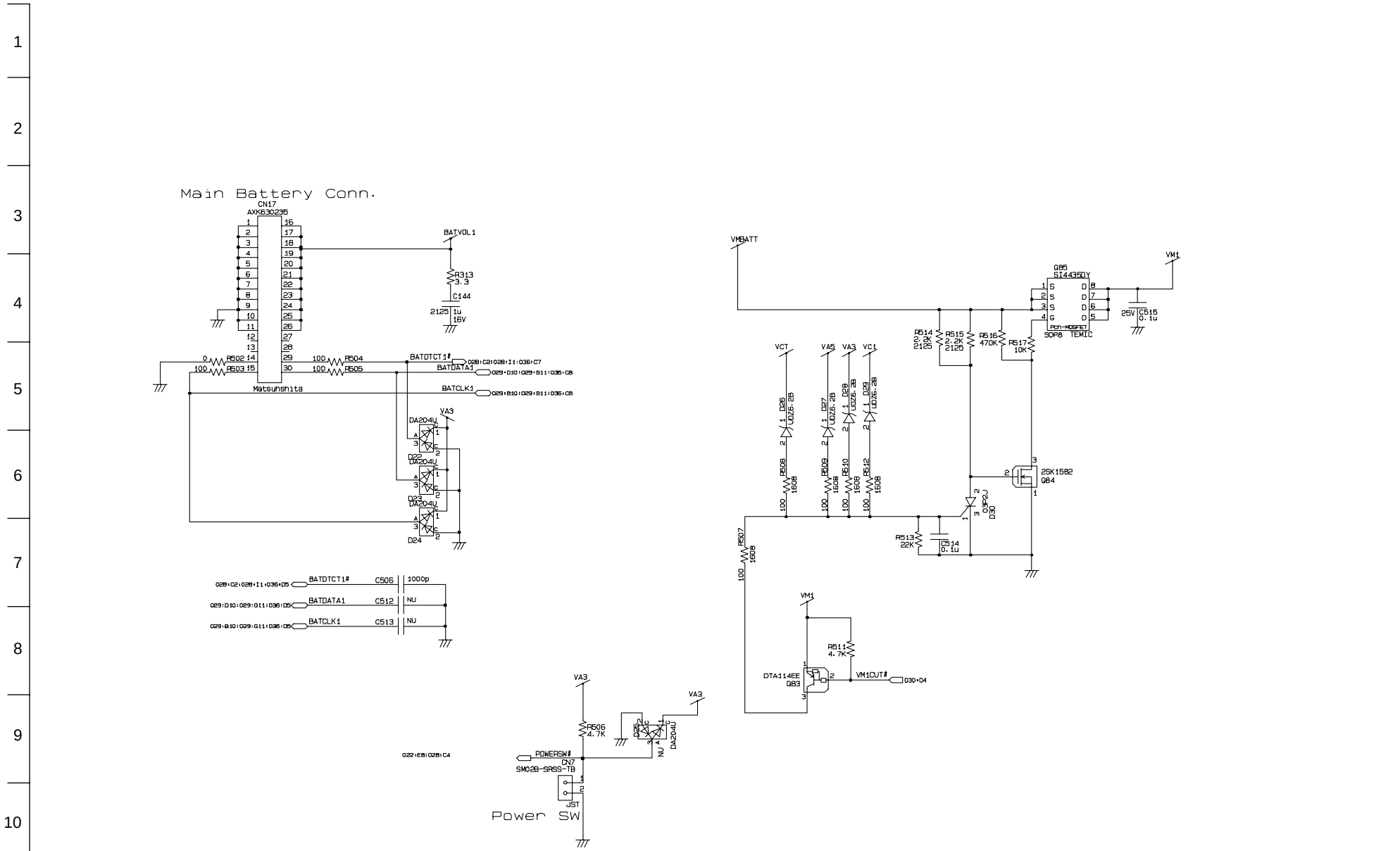
Main 34 VA3, VA5



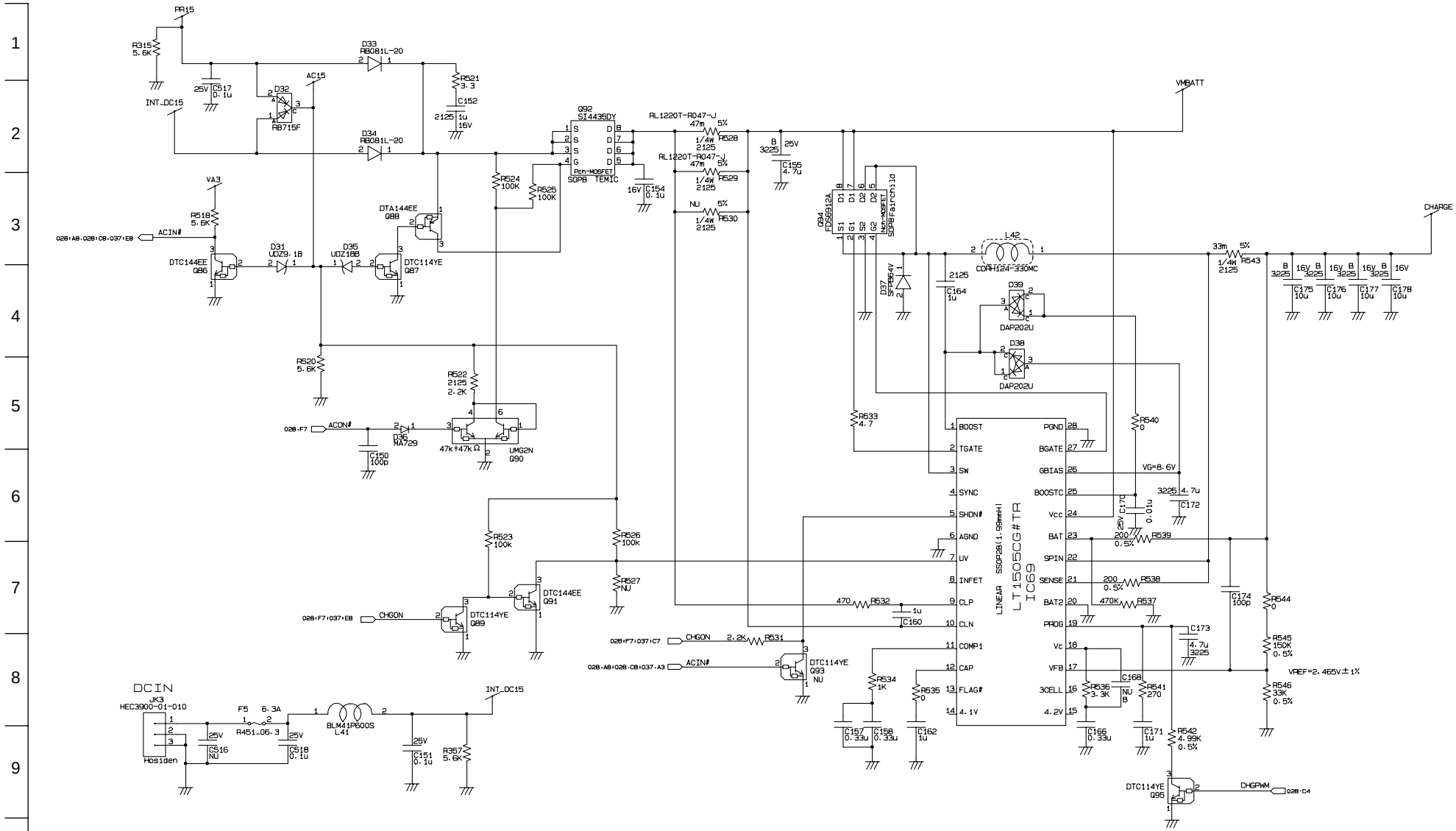
Main 35 VC3, VB3, VC5, VB5, Reset



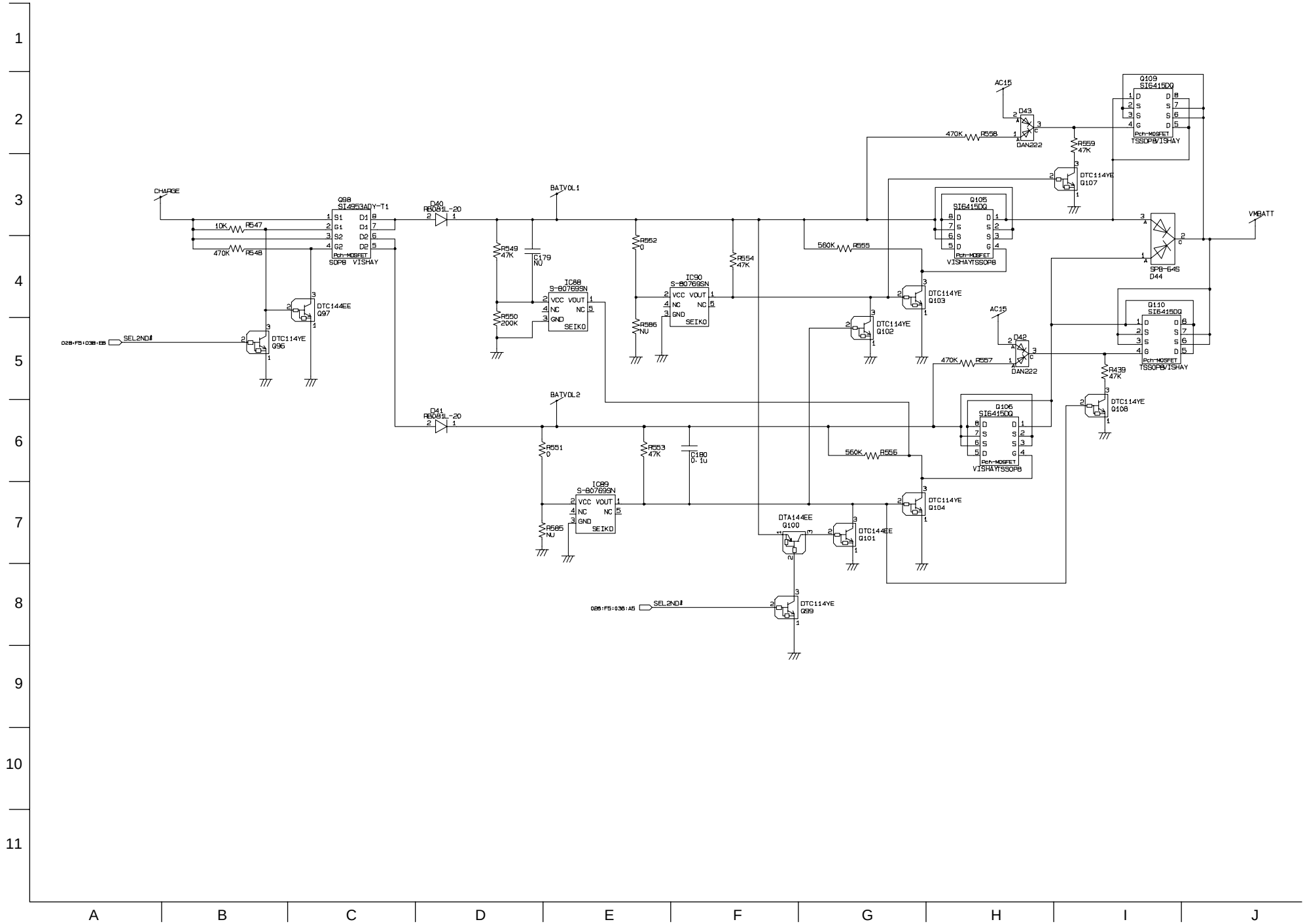
Main 36 DC-IN VM1 P-SW



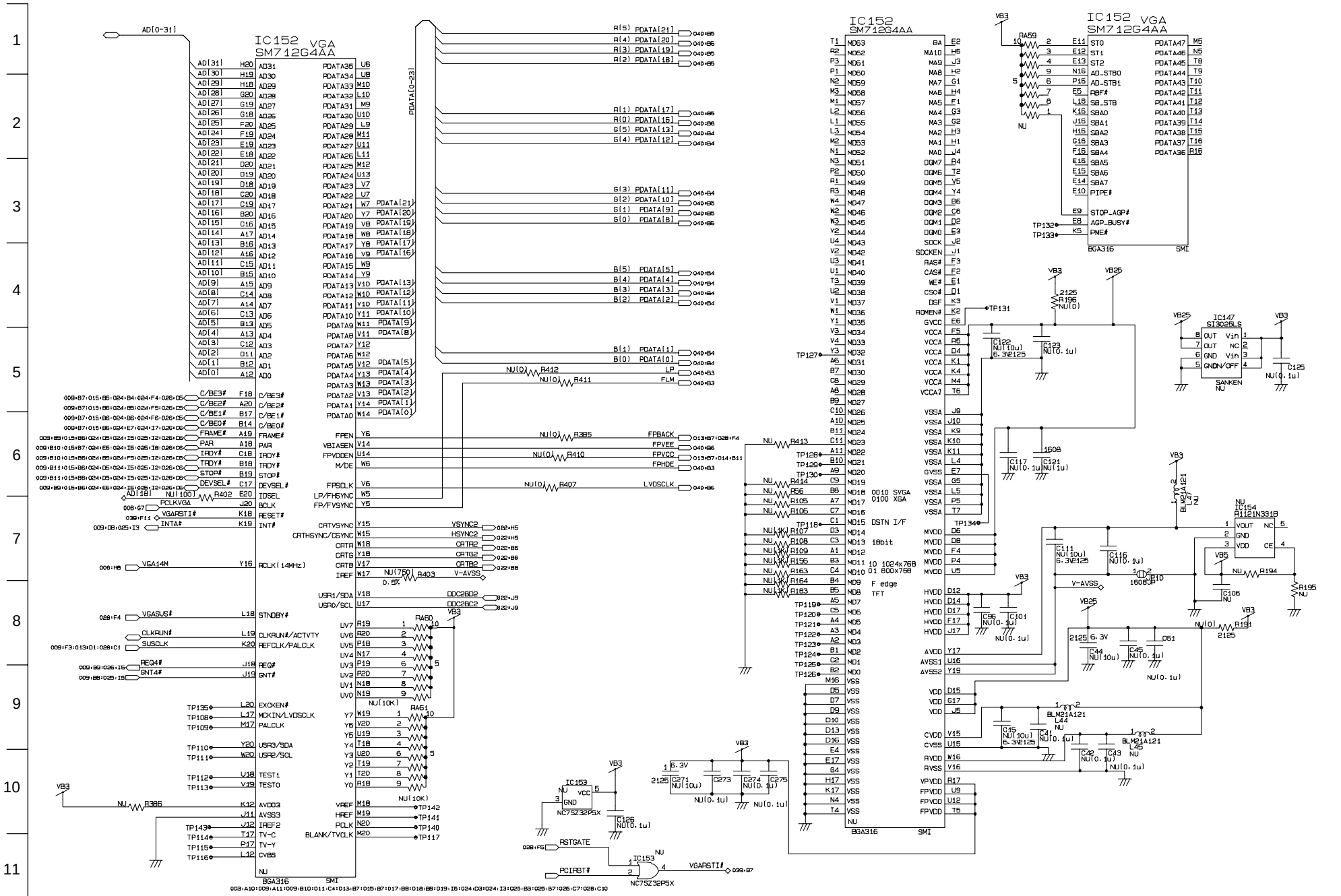
Main 37 Charger



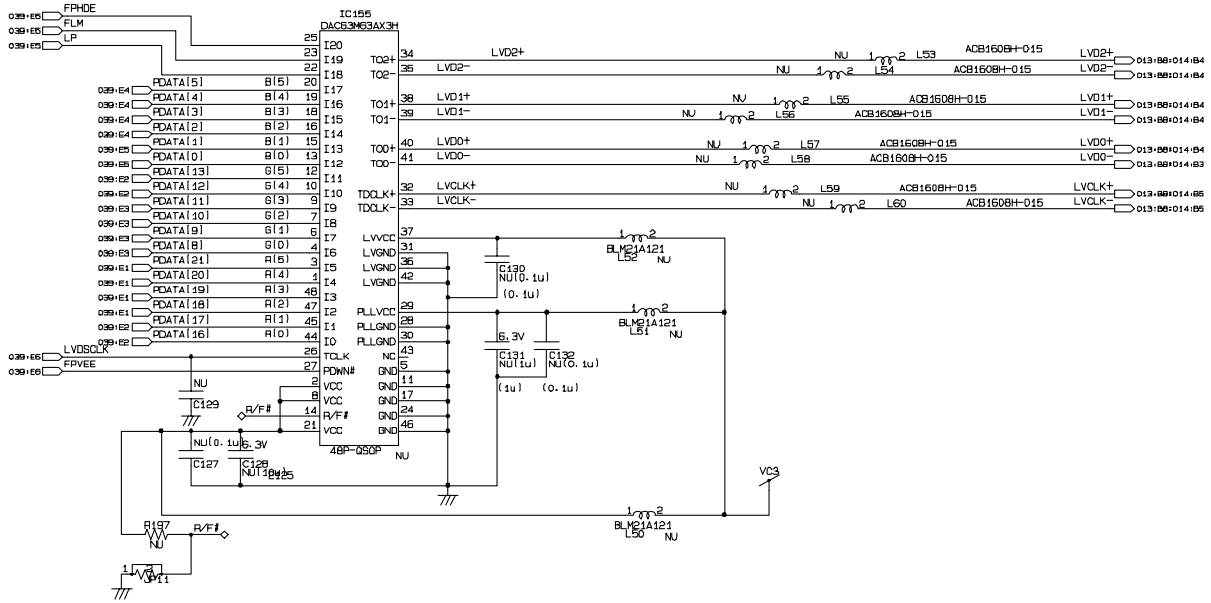
Main 38 2nd BAT CTL



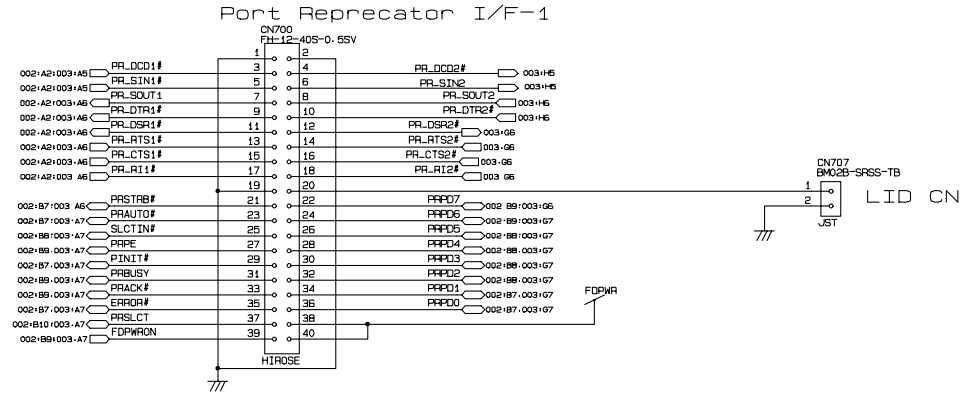
Main 39 SMI

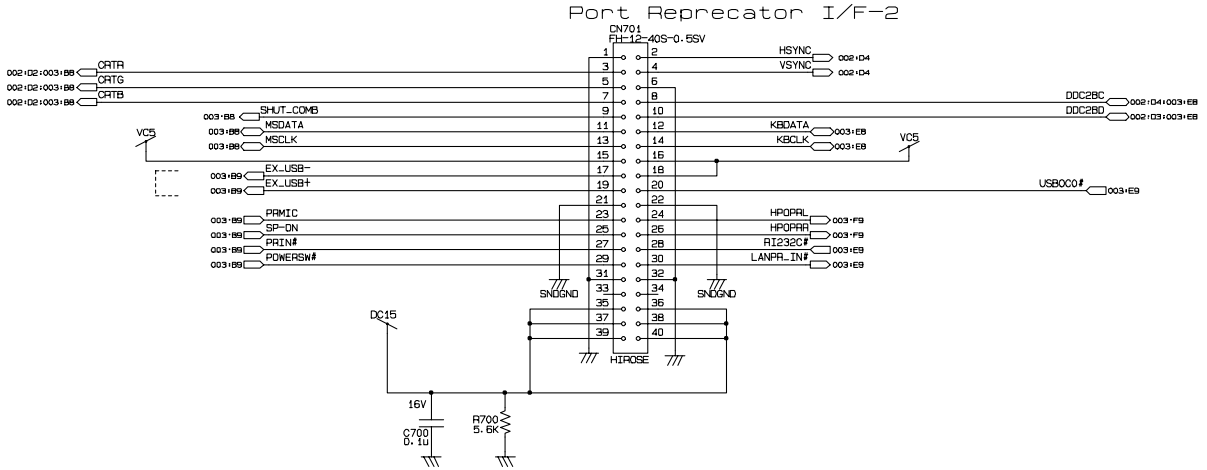

IC152 VGA SM712G4AA
IC152 SM712G4AA
IC152 VGA SM712G4AA
AD[0-31]
PDATA[0-23]
BGA316
SMI
NU
VB3
VB25
IC147 SI3025LS
SANKEN
IC153
NC7SZ32P5X
RSTGATE
PCIRST#
VGARSTI#
V-AVSS
IC154 R1121N331B
JUMPER
0010 SVGA
0100 XGA
01 800x768
10 1024x768
F edge
TFT
DSTN I/F
18bit

Main 40 LVDS

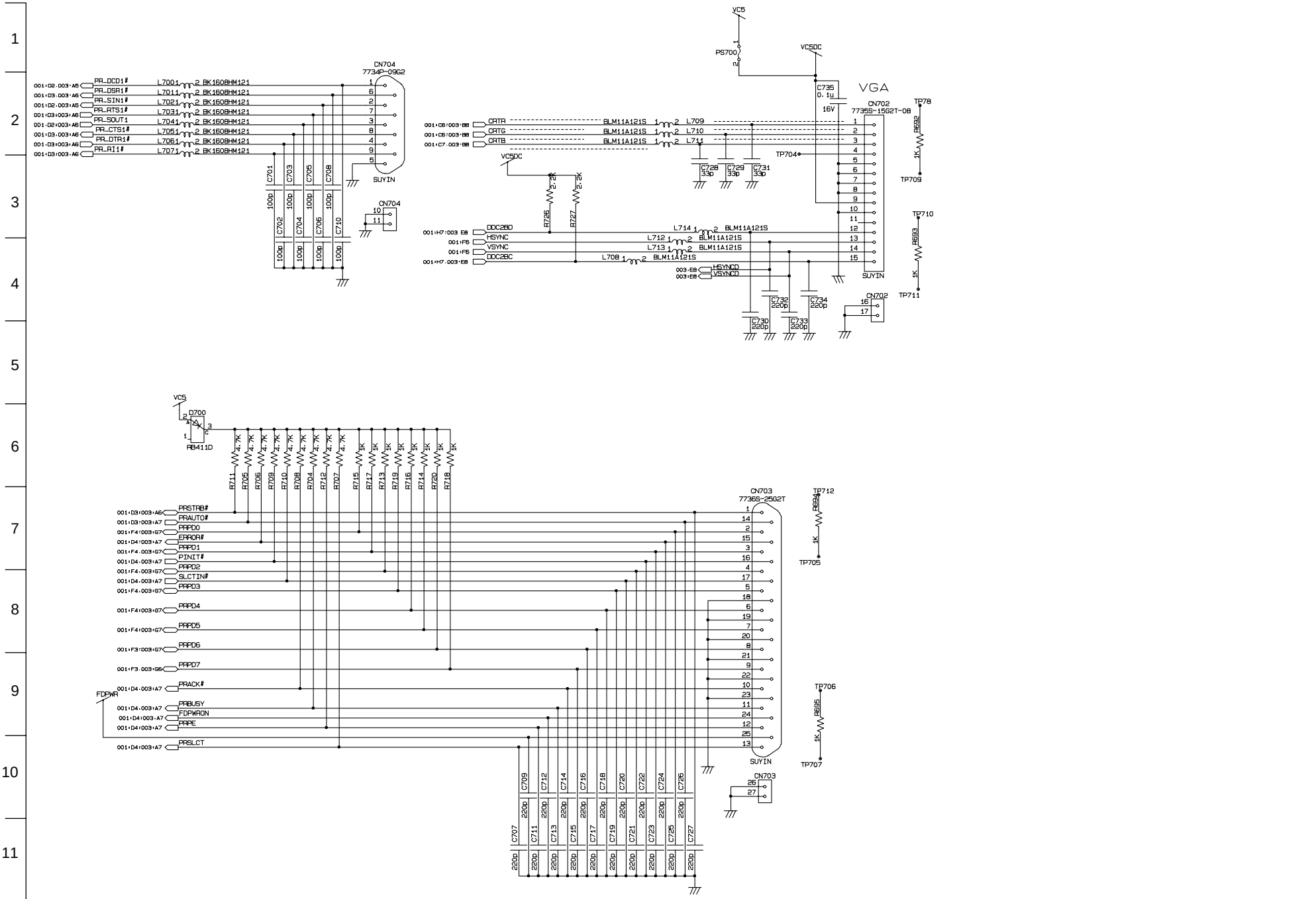

IC155
DAC63W63AX3H
48P-QSOP
FPHDE
FLM
LP
LVDSCLK
FPVEE
PDATA[5]
PDATA[4]
PDATA[3]
PDATA[2]
PDATA[1]
PDATA[0]
PDATA[13]
PDATA[12]
PDATA[11]
PDATA[10]
PDATA[9]
PDATA[8]
PDATA[21]
PDATA[20]
PDATA[19]
PDATA[18]
PDATA[17]
PDATA[16]
LVD2+
LVD2-
LVD1+
LVD1-
LVD0+
LVD0-
LVCLK+
LVCLK-
ACB1608H-015
BLM21A121
C130
NU(0.1u)
(0.1u)
C131
NU(1u)
C132
NU(0.1u)
6.3V
C129
C127
C128
R197
VC3

I/O 1 CN

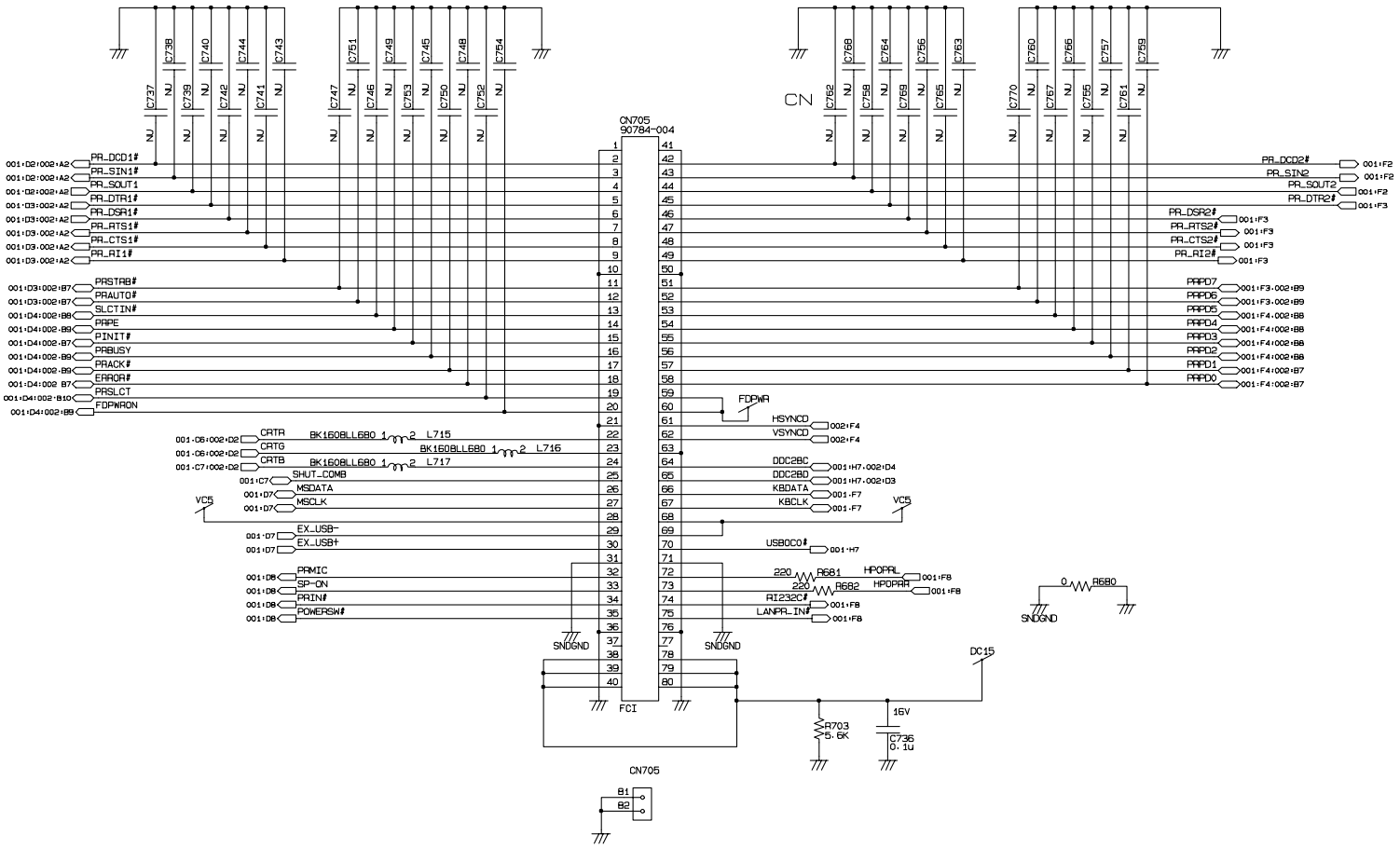

Port Reprecator I/F-1
CN700
FH-12-40S-0.5SV
PA_DCD1#
PA_SIN1#
PA_SOUT1
PA_DTR1#
PA_DSR1#
PA_RTS1#
PA_CTS1#
PA_RI1#
PASTRB#
PAAUTO#
SLCTIN#
PAPE
PINIT#
PABUSY
PAACK#
ERROR#
PASLCT
FDPWRON
PA_DCD2#
PA_SIN2
PA_SOUT2
PA_DTR2#
PA_DSR2#
PA_RTS2#
PA_CTS2#
PA_RI2#
PAPD7
PAPD6
PAPD5
PAPD4
PAPD3
PAPD2
PAPD1
PAPD0
FDPWR
HIROSE
CN707
BM02B-SRSS-TB
JST
LID CN


Port Reprecator I/F-2
CN701
FH-12-40S-0.5SV
CRTR
CRTG
CRTB
SHUT_COMB
MSDATA
MSCLK
EX_USB-
EX_USB+
PAMIC
SP-ON
PRIN#
POWERSW#
HSYNC
VSYNC
DDC2BC
DDC2BD
KBDATA
KBCLK
USBOC0#
HPOPRL
HPOPRR
AI232C#
LANPA_IN#
VC5
SNDGND
HIROSE
DC15
16V
C700
0.1u
R700
5.6K

I/O 2 CN

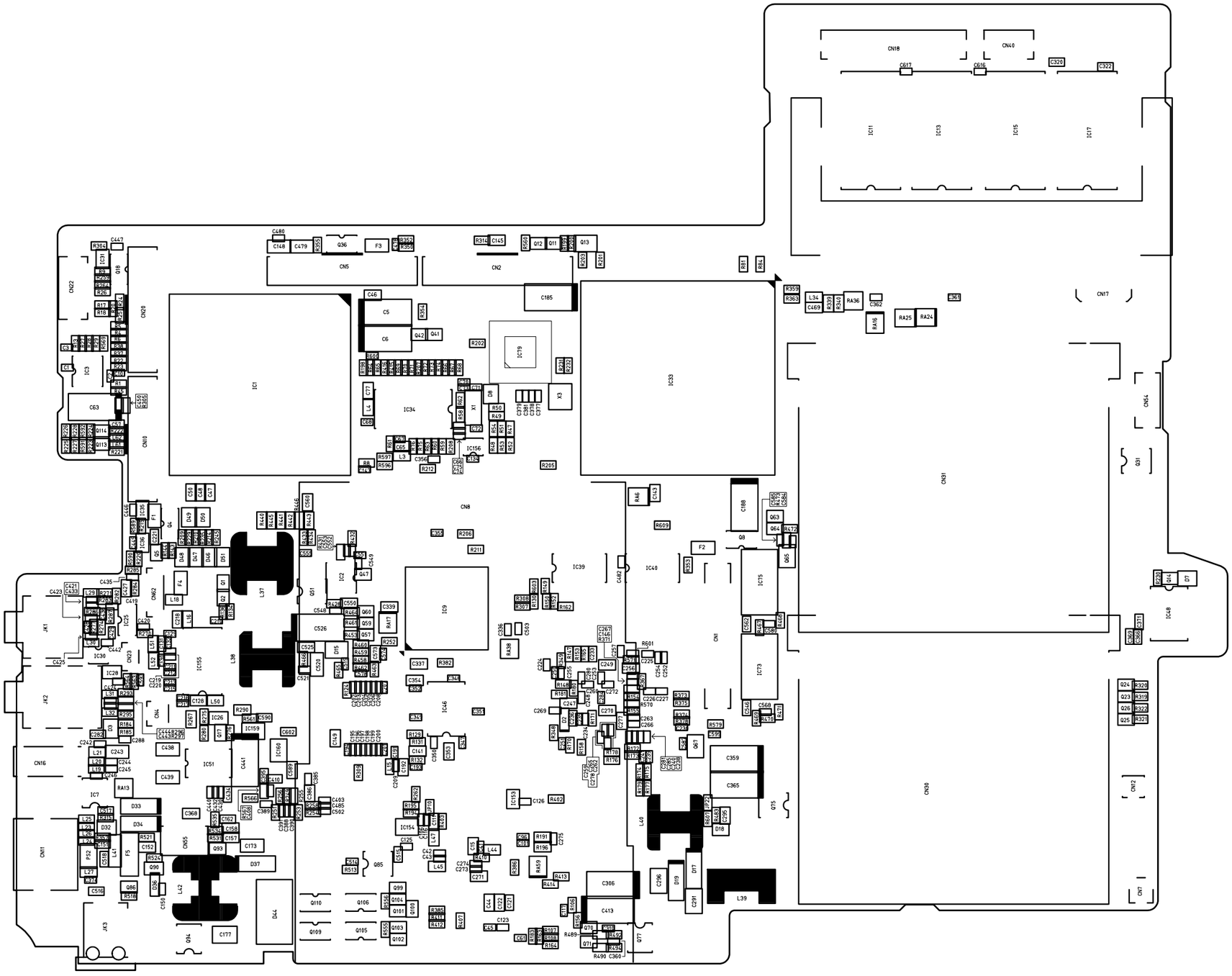

VGA
CN704
7734P-09G2
SUYIN
CN702
7735S-15G2T-08
SUYIN
CN703
7736S-25G2T
SUYIN
VC5
VC5DC
PS700
D700
RB411D
PA_DCD1#
PA_DSR1#
PA_SIN1#
PA_RTS1#
PA_SOUT1
PA_CTS1#
PA_DTR1#
PA_RI1#
CRTR
CRTG
CRTB
DDC2BD
HSYNC
VSYNC
DDC2BC
HSYNCD
VSYNCD
PRSTRB#
PRAUTO#
PRPD0
PRERR#
PRPD1
PINIT#
PRPD2
SLCTIN#
PRPD3
PRPD4
PRPD5
PRPD6
PRPD7
PRACK#
PRBUSY
FDPWRON
PRPE
PRSLCT
FDPWR
TP78
TP709
TP710
TP711
TP712
TP705
TP706
TP707
TP704

I/O 3 CN


CN705
90784-004
FCI
CN
PA_DCD1#
PA_SIN1#
PA_SOUT1
PA_DTR1#
PA_DSR1#
PA_RTS1#
PA_CTS1#
PA_RI1#
PASTB#
PAAUTO#
SLCTIN#
PAPE
PINIT#
PABUSY
PAACK#
ERROR#
PASLCT
FDPWRON
PA_DCD2#
PA_SIN2
PA_SOUT2
PA_DTR2#
PA_DSR2#
PA_RTS2#
PA_CTS2#
PA_RI2#
PAPD7
PAPD6
PAPD5
PAPD4
PAPD3
PAPD2
PAPD1
PAPD0
FDPWR
HSYNCD
VSYNCD
DDC2BC
DDC2BD
KBDATA
KBCLK
USB0C0#
HPOPRL
HPOPRR
RI232C#
LANPA_IN#
CRTR
CRTG
CRTB
BK160BLL680
L715
L716
L717
SHUT_COMB
MSDATA
MSCLK
EX_USB-
EX_USB+
PAMIC
SP-ON
PRIN#
POWERSW#
VC5
SNDGND
DC15
R703
5.6K
C736
0.1U
16V
R680
R681
R682
220
CN705
B1
B2

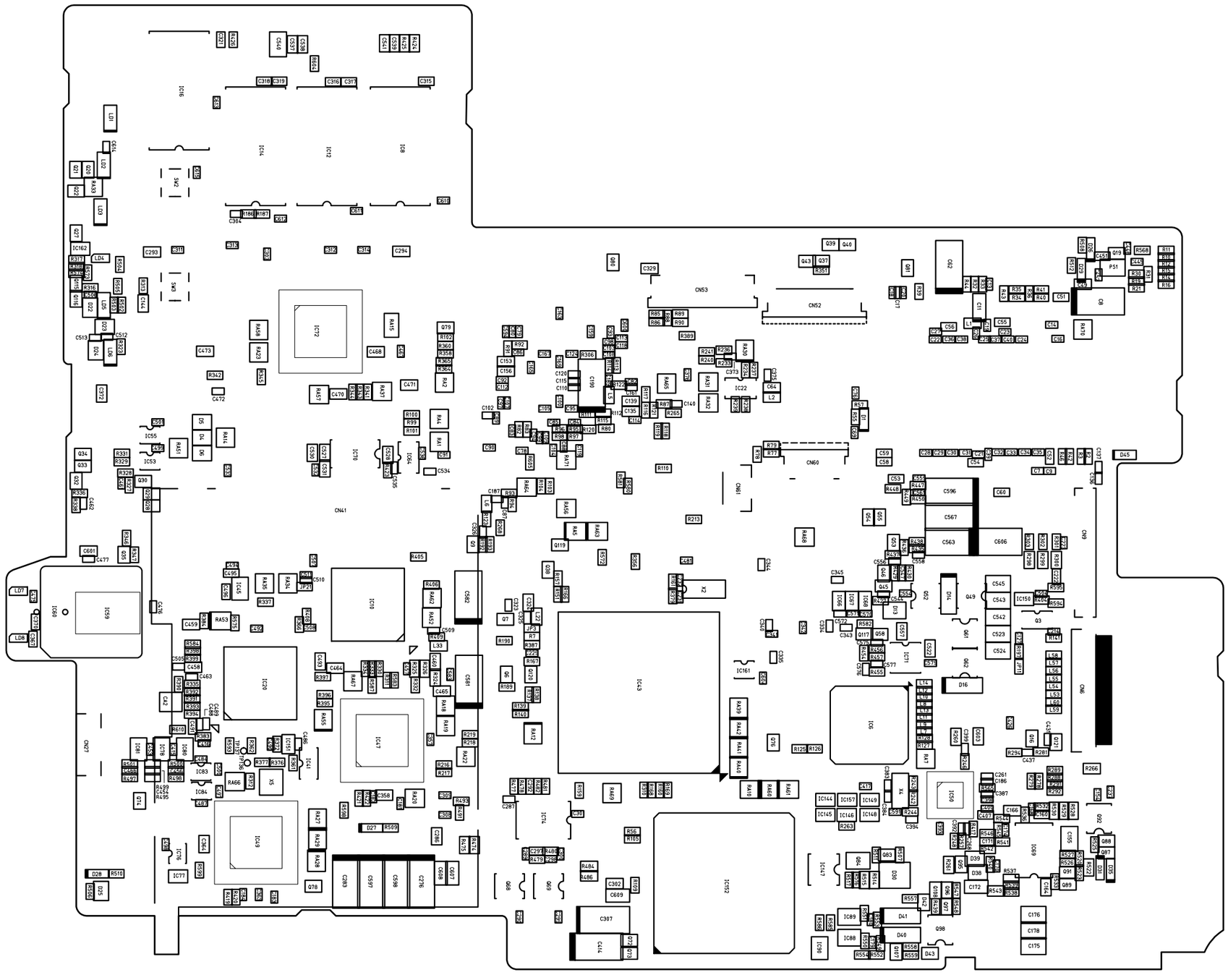
CF-28MK2
Printed Circuit Board

MAIN PCB<Top View>


CN18
CN40
C817
C816
C320
C322
IC11
IC13
IC15
IC17
CN17
CN54
CN31
Q31
CN30
CN12
CN7
IC49
IC75
IC73
C188
L39
C306
C413
C359
C365
Q75
D18
D19
D17
C296
C291
CN22
CN20
IC3
IC1
IC33
C63
CN10
IC34
IC19
X1
X3
IC156
CN8
IC2
IC9
IC39
IC40
IC46
IC155
IC159
IC154
IC51
CN16
IC7
CN11
CN65
JK1
JK2
JK3
CN23
CN62
CN4
CN5
CN2
C185
C362
RA36
RA16
RA25
RA24
C469
L34
C480
C148
C479
Q36
F3
C145
Q12
Q11
Q13
C447
C435
C423
C425
C442
C242
C243
C244
C245
C438
C439
C368
C441
C410
C389
C502
C463
C485
C177
C173
C158
C157
C152
C162
C288
C282
C128
L56
C590
C662
C526
C525
C520
C521
C549
C548
C556
C339
C337
C382
C354
C346
C345
C269
C247
C249
C278
C263
C266
C254
C252
C226
C227
C570
C579
C359
C365
C368
C306
C413
C188
C296
C291
C549
C568
C471
C469
C362
C322
C320
C816
C817
R314
C145
R304
R314
R359
R363
R81
R84
R202
R205
R206
R211
R212
R295
R609
R601
R603
R604
R605
R606
R607
R608
R610
R611
R612
R613
R614
R615
R616
R617
R618
R619
R620
R621
R622
R623
R624
R625
R626
R627
R628
R629
R630
R631
R632
R633
R634
R635
R636
R637
R638
R639
R640
R641
R642
R643
R644
R645
R646
R647
R648
R649

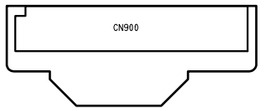
Printed Circuit Board

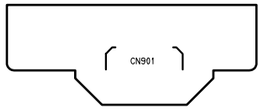
MAIN PCB<Bottom View>



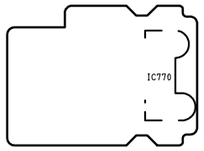
Printed Circuit Board

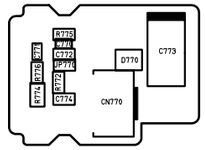
Battery PCB



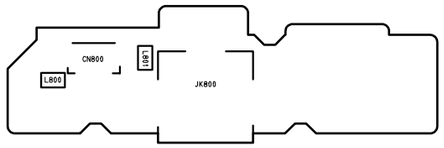


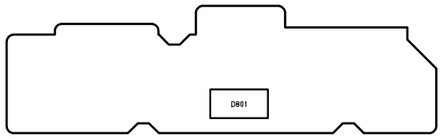
IR PCB



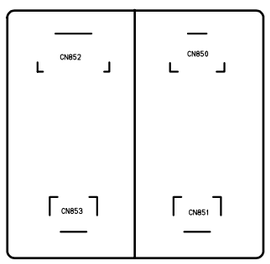


RJ PCB

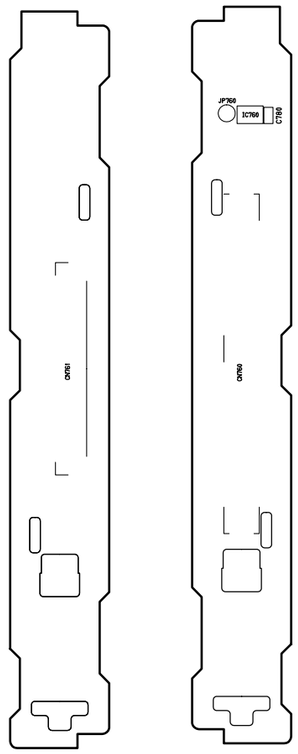




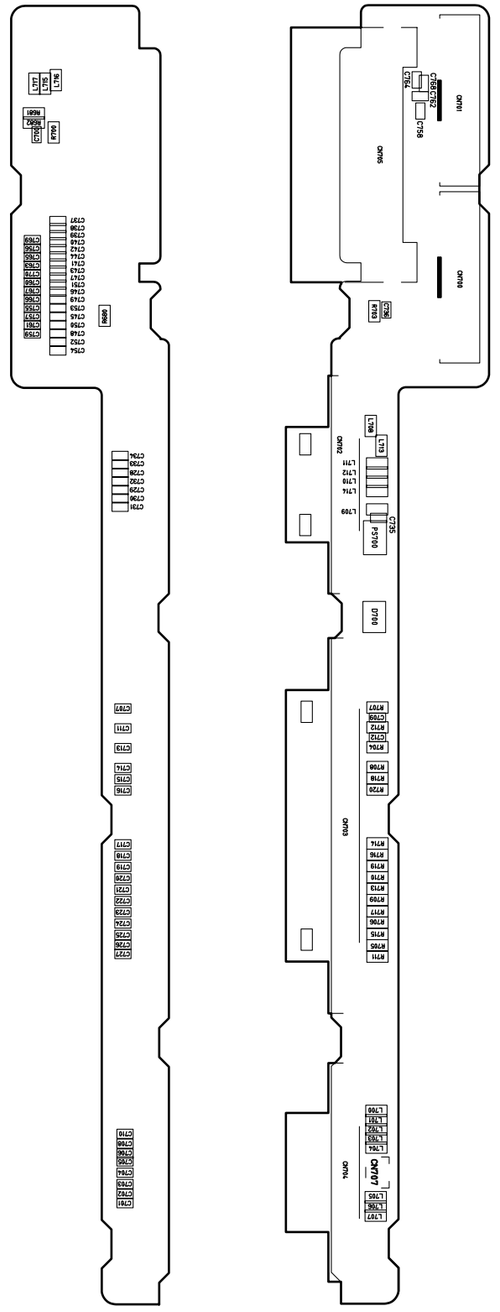
TS13 PCB



FDD PCB



I/O PCB


CN752
CN753
CN754
CN755
CN756
CN757
CN758
CN759
CN760
CN761
CN762
CN763
CN764
CN765
CN766
CN767
CN768
CN769
CN770
CN771
CN772
CN773
CN774
CN775
CN776
CN777
CN778
CN779
CN780
CN781
CN782
CN783
CN784
CN785
CN786
CN787
CN788
CN789
CN790
CN791
CN792
CN793
CN794
CN795
CN796
CN797
CN798
CN799
CN700
CN701
CN702
CN703
CN704
CN705
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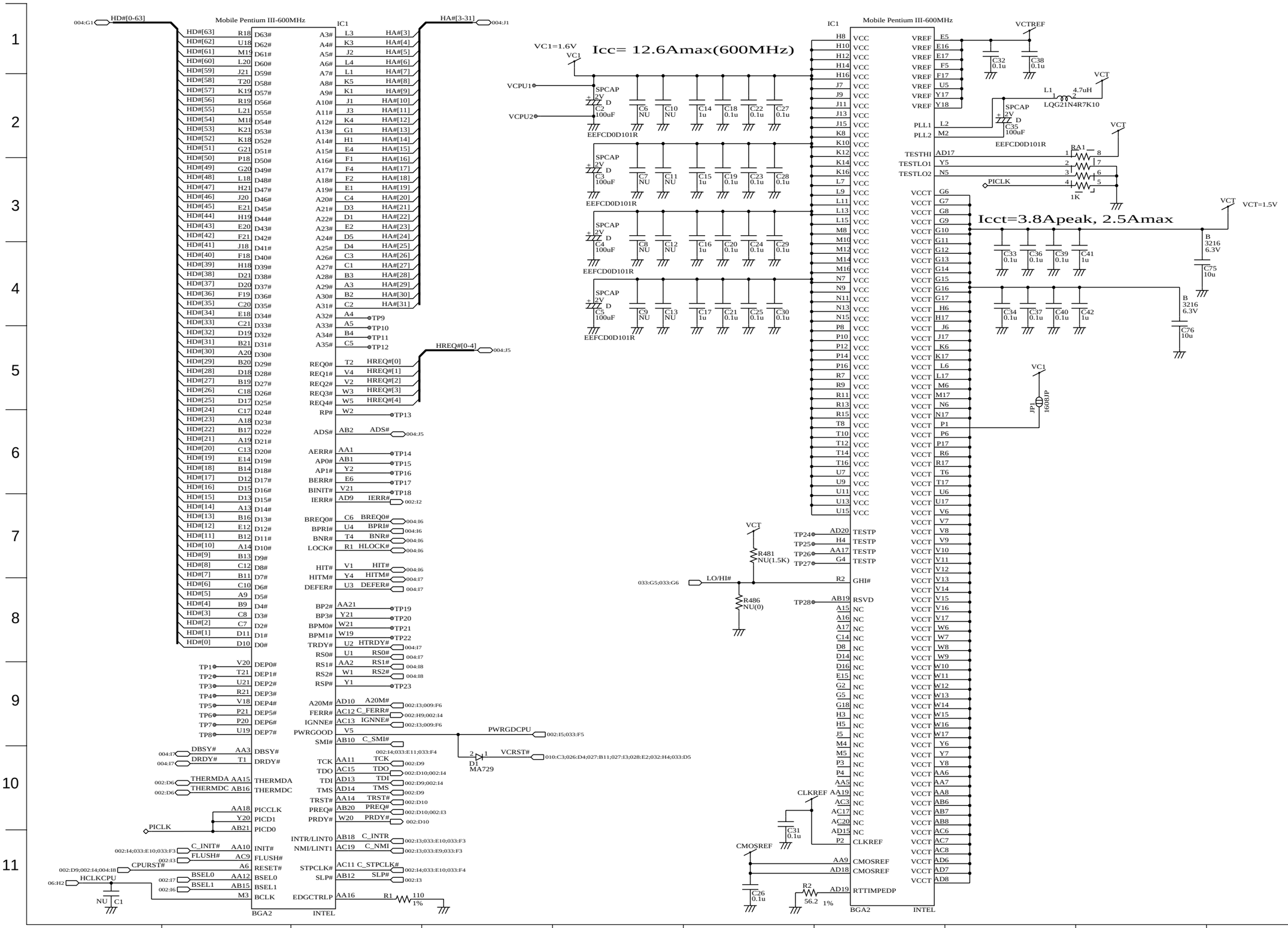
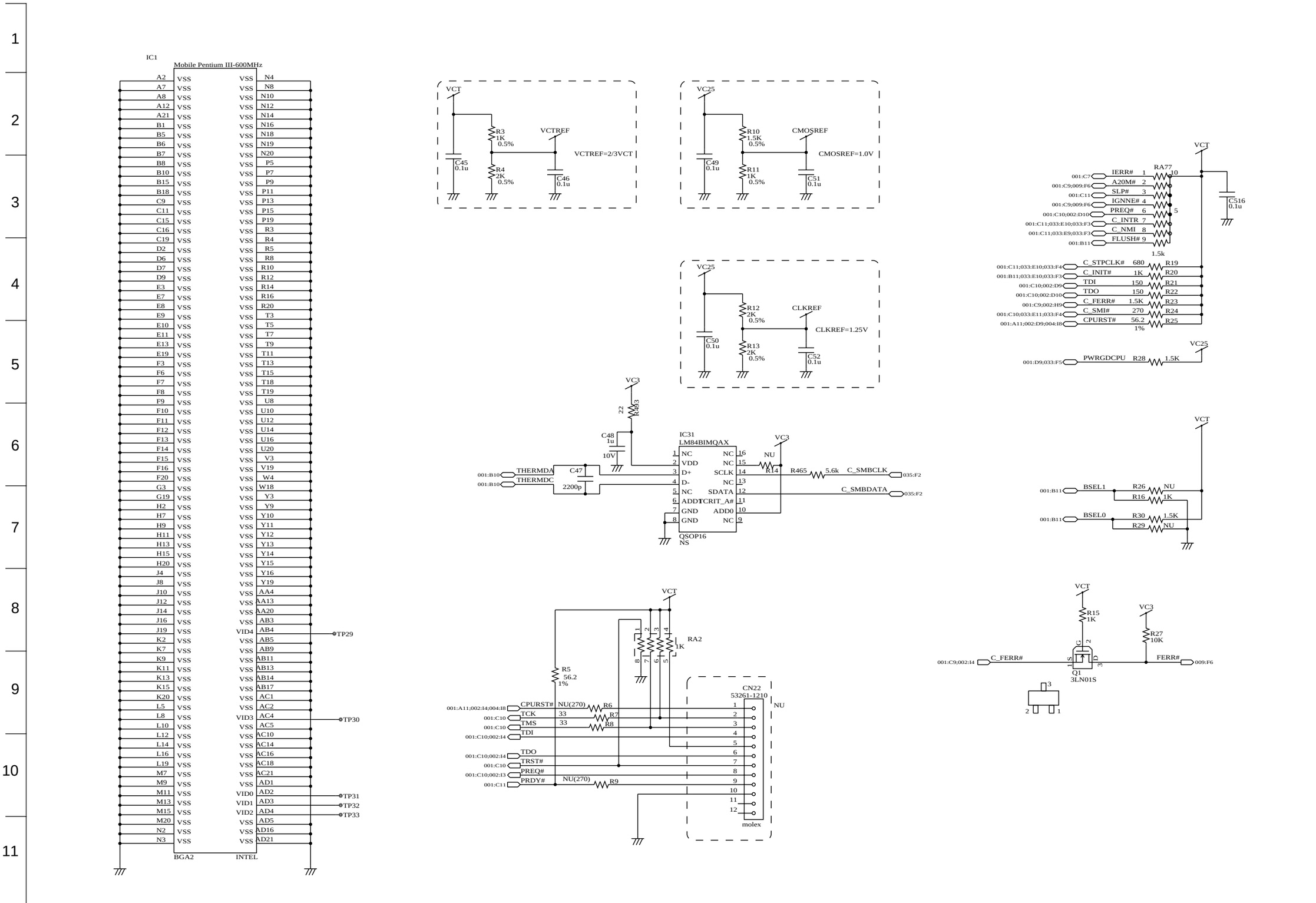
CN708
CN709
CN710
CN711
CN712
CN713
CN714
CN715
CN716
CN717
CN718
CN719
CN720
CN721
CN722
CN723
CN724
CN725
CN726
CN727
CN728
CN729
CN730
CN731
CN732
CN733
CN734
CN735
CN736
CN737
CN738
CN739
CN740
CN741
CN742
CN743
CN744
CN745
CN746
CN747
CN748
CN749
CN750
CN751

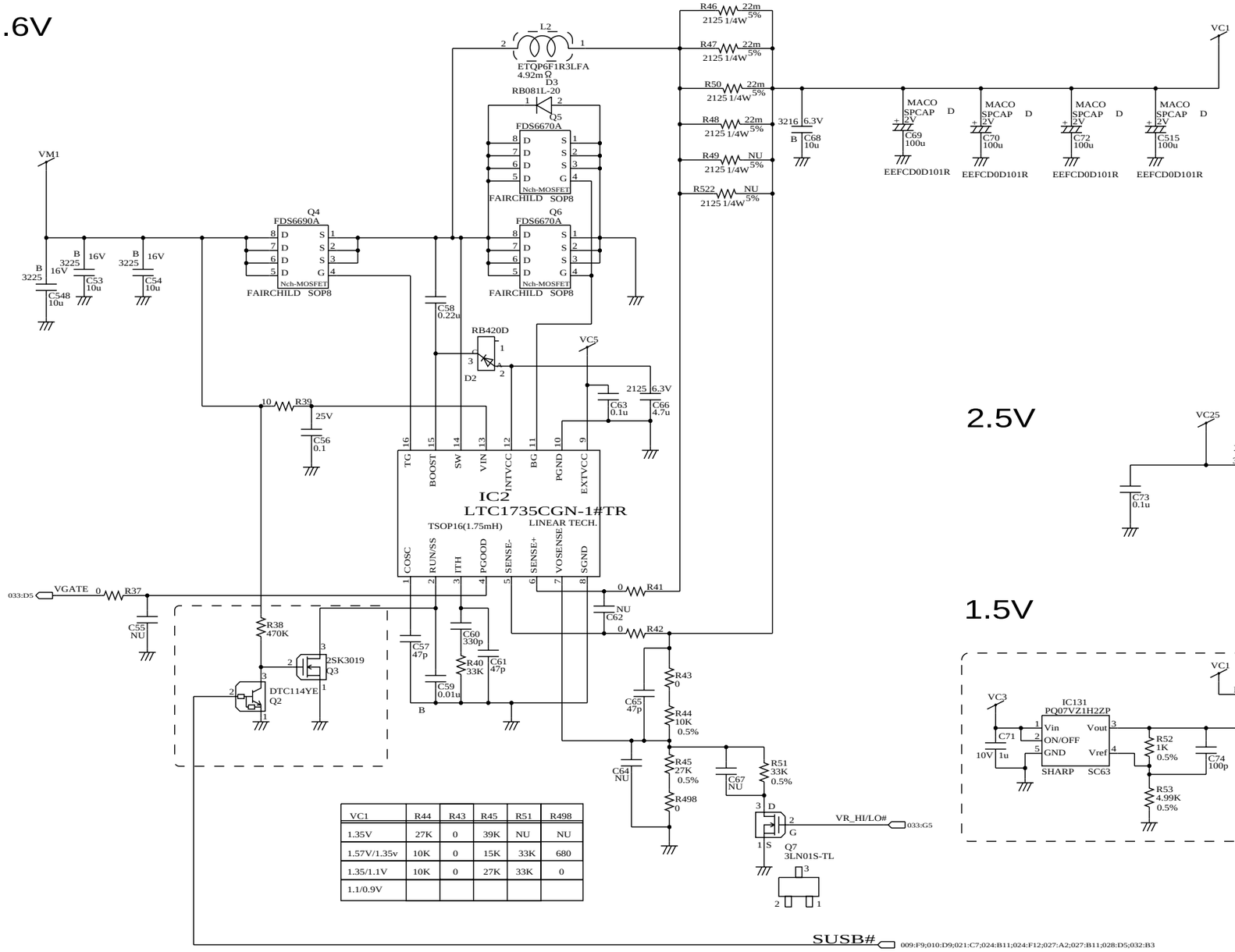

Mobile Pentium III-600MHz
IC1
HD#[0-63]
HA#[3-31]
HREQ#[0-4]
Icc= 12.6Amax(600MHz)
VC1=1.6V
Icct=3.8Apeak, 2.5Amax
VCT=1.5V
VCTREF
VCT
VC1
PICLK
LO/HI#
CLKREF
CMOSREF
PWRGDCPU
VCRST#
BGA2
INTEL

Main 2 CPU (2/2)


IC1
Mobile Pentium III-600MHz
A2 VSS
A7 VSS
A8 VSS
A12 VSS
A21 VSS
B1 VSS
B5 VSS
B6 VSS
B7 VSS
B8 VSS
B10 VSS
B15 VSS
B18 VSS
C9 VSS
C11 VSS
C15 VSS
C16 VSS
C19 VSS
D2 VSS
D6 VSS
D7 VSS
D9 VSS
E3 VSS
E7 VSS
E8 VSS
E9 VSS
E10 VSS
E11 VSS
E13 VSS
E19 VSS
F3 VSS
F6 VSS
F7 VSS
F8 VSS
F9 VSS
F10 VSS
F11 VSS
F12 VSS
F13 VSS
F14 VSS
F15 VSS
F16 VSS
F20 VSS
G3 VSS
G19 VSS
H2 VSS
H7 VSS
H9 VSS
H11 VSS
H13 VSS
H15 VSS
H20 VSS
J4 VSS
J8 VSS
J10 VSS
J12 VSS
J14 VSS
J16 VSS
J19 VSS
K2 VSS
K7 VSS
K9 VSS
K11 VSS
K13 VSS
K15 VSS
K20 VSS
L5 VSS
L8 VSS
L10 VSS
L12 VSS
L14 VSS
L16 VSS
L19 VSS
M7 VSS
M9 VSS
M11 VSS
M13 VSS
M15 VSS
M20 VSS
N2 VSS
N3 VSS
VSS N4
VSS N8
VSS N10
VSS N12
VSS N14
VSS N16
VSS N18
VSS N19
VSS N20
VSS P5
VSS P7
VSS P9
VSS P11
VSS P13
VSS P15
VSS P19
VSS R3
VSS R4
VSS R5
VSS R8
VSS R10
VSS R12
VSS R14
VSS R16
VSS R20
VSS T3
VSS T5
VSS T7
VSS T9
VSS T11
VSS T13
VSS T15
VSS T18
VSS T19
VSS U8
VSS U10
VSS U12
VSS U14
VSS U16
VSS U20
VSS V3
VSS V19
VSS W4
VSS W18
VSS Y3
VSS Y9
VSS Y10
VSS Y11
VSS Y12
VSS Y13
VSS Y14
VSS Y15
VSS Y16
VSS Y19
VSS AA4
VSS AA13
VSS AA20
VSS AB3
VID4 AB4
VSS AB5
VSS AB9
VSS AB11
VSS AB13
VSS AB14
VSS AB17
VSS AC1
VSS AC2
VID3 AC4
VSS AC5
VSS AC10
VSS AC14
VSS AC16
VSS AC18
VSS AC21
VSS AD1
VID0 AD2
VID1 AD3
VID2 AD4
VSS AD5
VSS AD16
VSS AD21
BGA2
INTEL
TP29
TP30
TP31
TP32
TP33
VCT
R3 1K 0.5%
VCTREF
VCTREF=2/3VCT
C45 0.1u
R4 2K 0.5%
C46 0.1u
VC25
R10 1.5K 0.5%
CMOSREF
CMOSREF=1.0V
C49 0.1u
R11 1K 0.5%
C51 0.1u
R12 2K 0.5%
CLKREF
CLKREF=1.25V
C50 0.1u
R13 2K 0.5%
C52 0.1u
VC3
R493 22
C48 1u 10V
C47 2200p
THERMDA
THERMDC
IC31
LM84BIMQAX
NC
VDD
D+
D-
SDATA
ADDR_A#
GND
QSOP16
NS
R14 NU
R465 5.6k
C_SMBCLK
C_SMBDATA
035:F2
RA77
IERR# 10
A20M# 2
SLP# 3
IGNNE# 4
PREQ# 6
C_INTR 7
C_NMI 8
FLUSH# 9
1.5k
C516 0.1u
C_STPCLK# 680 R19
C_INIT# 1K R20
TDI 150 R21
TDO 150 R22
C_FERR# 1.5K R23
C_SMI# 270 R24
CPURST# 56.2 R25
1%
PWRGDCPU R28 1.5K
BSEL1 R26 NU
R16 1K
BSEL0 R30 1.5K
R29 NU
RA2
1K
R5 56.2 1%
CN22
53261-1210
CPURST# NU(270) R6
TCK 33 R7
TMS 33 R8
TDI
TDO
TRST#
PREQ#
PRDY# NU(270) R9
molex
R15 1K
R27 10K
C_FERR#
FERR#
Q1
3LN01S

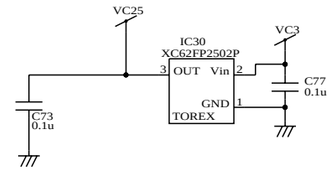
Main 3 VC1.6/1.35,VCT,VC25

1.6V

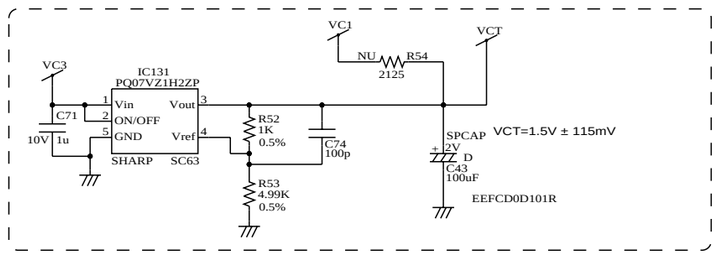


VC1	R44	R43	R45	R51	R498
1.35V	27K	0	39K	NU	NU
1.57V/1.35v	10K	0	15K	33K	680
1.35/1.1V	10K	0	27K	33K	0
1.1/0.9V					

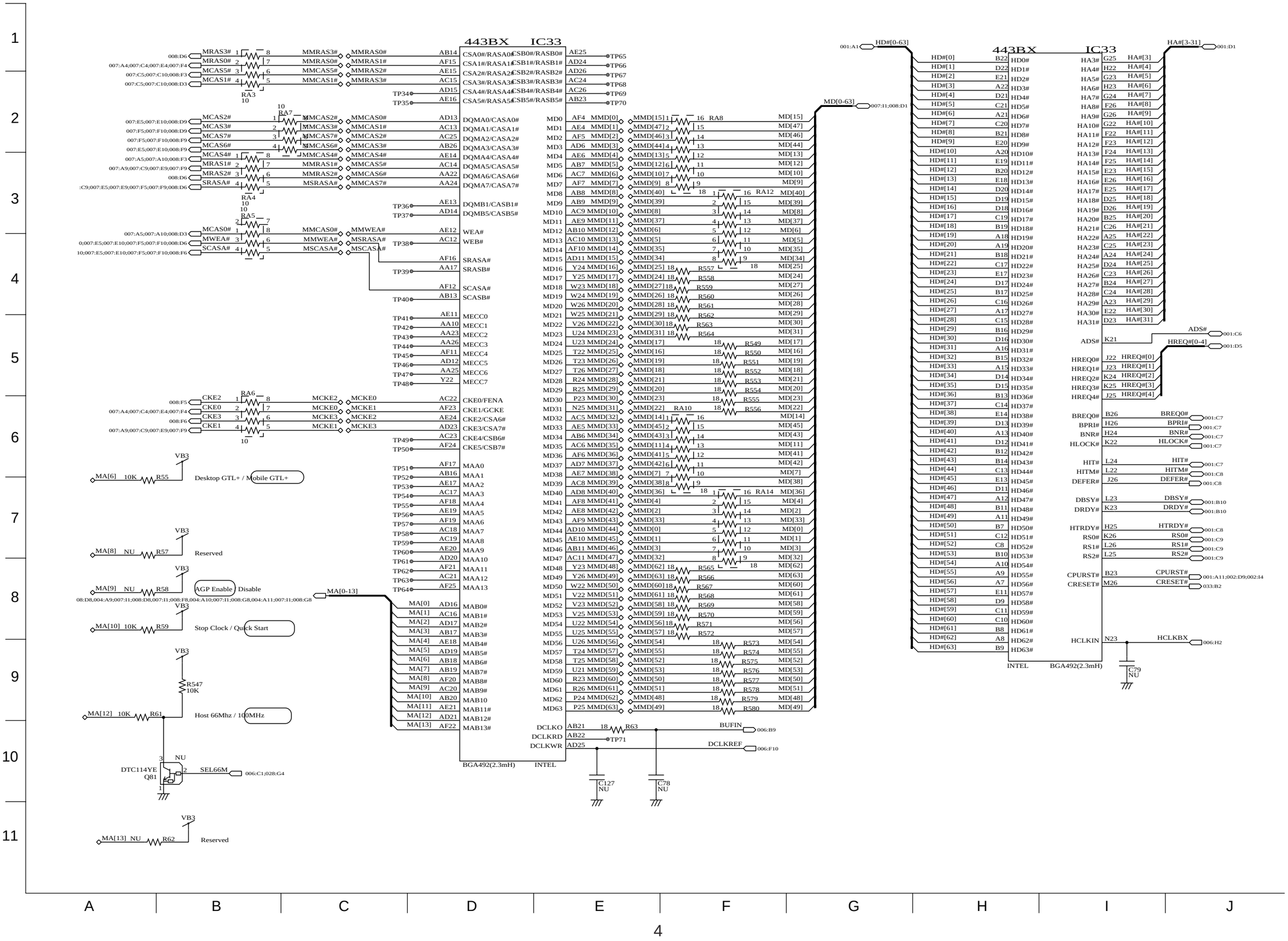
2.5V



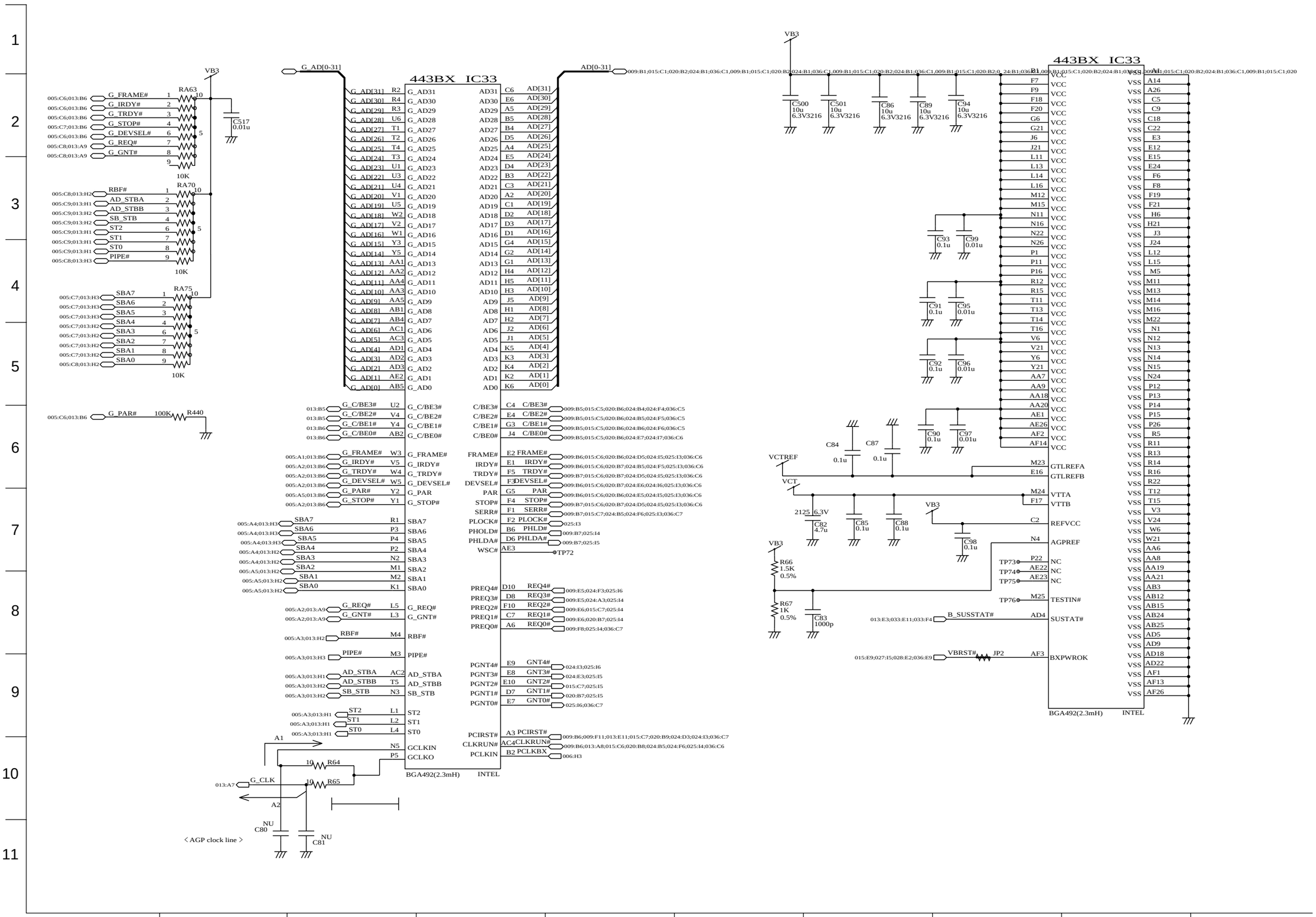
1.5V



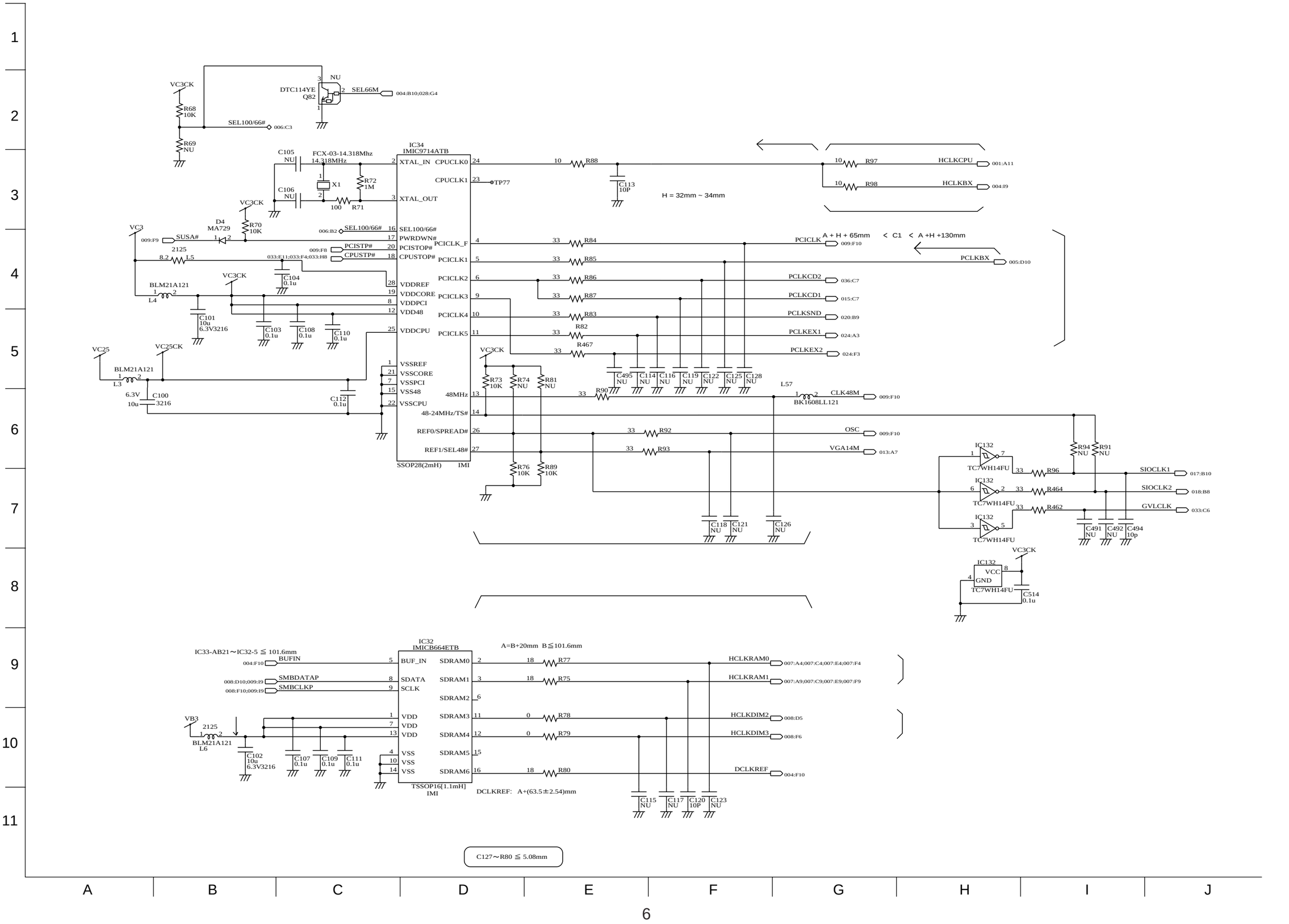
Main 4 CORE (1/2)


443BX IC33
BGA492(2.3mH)
INTEL
MRAS3# MRAS0# MCAS5# MCAS1#
MMRAS3# MMRAS0# MMCAS5# MMCAS1#
MMRAS0# MMRAS1# MMRAS2# MMRAS3#
RA3
MCAS2# MCAS3# MCAS7# MCAS6#
MMCAS2# MMCAS3# MMCAS7# MMCAS6#
MMCAS0# MMCAS1# MMCAS2# MMCAS3#
RA7
MCAS4# MRAS1# MRAS2# SRASA#
MMCAS4# MMRAS1# MMRAS2# MSRASA#
MMCAS4# MMCAS5# MMCAS6# MMCAS7#
RA4
RA5
MCAS0# MWEA# SCASA#
MMCAS0# MMWEA# MSRASA# MSCASA#
MMWEA# MSRASA# MSCASA#
RA6
CKE2 CKE0 CKE3 CKE1
MCKE2 MCKE0 MCKE3 MCKE1
MCKE0 MCKE1 MCKE2 MCKE3
CSA0#/RASA0# CSA1#/RASA1# CSA2#/RASA2# CSA3#/RASA3# CSA4#/RASA4# CSA5#/RASA5#
CSB0#/RASB0# CSB1#/RASB1# CSB2#/RASB2# CSB3#/RASB3# CSB4#/RASB4# CSB5#/RASB5#
DQMA0/CASA0# DQMA1/CASA1# DQMA2/CASA2# DQMA3/CASA3# DQMA4/CASA4# DQMA5/CASA5# DQMA6/CASA6# DQMA7/CASA7#
DQMB1/CASB1# DQMB5/CASB5#
WEA# WEB# SRASA# SRASB# SCASA# SCASB#
MECC0 MECC1 MECC2 MECC3 MECC4 MECC5 MECC6 MECC7
CKE0/FENA CKE1/GCKE CKE2/CSA6# CKE3/CSA7# CKE4/CSB6# CKE5/CSB7#
MAA0 MAA1 MAA2 MAA3 MAA4 MAA5 MAA6 MAA7 MAA8 MAA9 MAA10 MAA11 MAA12 MAA13
MAB0# MAB1# MAB2# MAB3# MAB4# MAB5# MAB6# MAB7# MAB8# MAB9# MAB10 MAB11# MAB12# MAB13#
MD0 MD1 MD2 MD3 MD4 MD5 MD6 MD7 MD8 MD9 MD10 MD11 MD12 MD13 MD14 MD15 MD16 MD17 MD18 MD19 MD20 MD21 MD22 MD23 MD24 MD25 MD26 MD27 MD28 MD29 MD30 MD31 MD32 MD33 MD34 MD35 MD36 MD37 MD38 MD39 MD40 MD41 MD42 MD43 MD44 MD45 MD46 MD47 MD48 MD49 MD50 MD51 MD52 MD53 MD54 MD55 MD56 MD57 MD58 MD59 MD60 MD61 MD62 MD63
MMD[0] MMD[1] MMD[2] MMD[3] MMD[4] MMD[5] MMD[6] MMD[7] MMD[8] MMD[9] MMD[10] MMD[11] MMD[12] MMD[13] MMD[14] MMD[15] MMD[16] MMD[17] MMD[18] MMD[19] MMD[20] MMD[21] MMD[22] MMD[23] MMD[24] MMD[25] MMD[26] MMD[27] MMD[28] MD[29] MMD[30] MMD[31] MMD[32] MMD[33] MMD[34] MMD[35] MMD[36] MMD[37] MMD[38] MMD[39] MMD[40] MMD[41] MMD[42] MMD[43] MMD[44] MMD[45] MMD[46] MMD[47] MMD[48] MMD[49] MMD[50] MMD[51] MMD[52] MMD[53] MMD[54] MMD[55] MMD[56] MMD[57] MMD[58] MMD[59] MMD[60] MMD[61] MMD[62] MMD[63]
MD[0-63]
001:A1 HD#[0-63]
HD#[0] HD#[1] HD#[2] HD#[3] HD#[4] HD#[5] HD#[6] HD#[7] HD#[8] HD#[9] HD#[10] HD#[11] HD#[12] HD#[13] HD#[14] HD#[15] HD#[16] HD#[17] HD#[18] HD#[19] HD#[20] HD#[21] HD#[22] HD#[23] HD#[24] HD#[25] HD#[26] HD#[27] HD#[28] HD#[29] HD#[30] HD#[31] HD#[32] HD#[33] HD#[34] HD#[35] HD#[36] HD#[37] HD#[38] HD#[39] HD#[40] HD#[41] HD#[42] HD#[43] HD#[44] HD#[45] HD#[46] HD#[47] HD#[48] HD#[49] HD#[50] HD#[51] HD#[52] HD#[53] HD#[54] HD#[55] HD#[56] HD#[57] HD#[58] HD#[59] HD#[60] HD#[61] HD#[62] HD#[63]
HD0# HD1# HD2# HD3# HD4# HD5# HD6# HD7# HD8# HD9# HD10# HD11# HD12# HD13# HD14# HD15# HD16# HD17# HD18# HD19# HD20# HD21# HD22# HD23# HD24# HD25# HD26# HD27# HD28# HD29# HD30# HD31# HD32# HD33# HD34# HD35# HD36# HD37# HD38# HD39# HD40# HD41# HD42# HD43# HD44# HD45# HD46# HD47# HD48# HD49# HD50# HD51# HD52# HD53# HD54# HD55# HD56# HD57# HD58# HD59# HD60# HD61# HD62# HD63#
HA[3-31]
001:D1
HA3# HA4# HA5# HA6# HA7# HA8# HA9# HA10# HA11# HA12# HA13# HA14# HA15# HA16# HA17# HA18# HA19# HA20# HA21# HA22# HA23# HA24# HA25# HA26# HA27# HA28# HA29# HA30# HA31#
HA[3] HA[4] HA[5] HA[6] HA[7] HA[8] HA[9] HA[10] HA[11] HA[12] HA[13] HA[14] HA[15] HA[16] HA[17] HA[18] HA[19] HA[20] HA[21] HA[22] HA[23] HA[24] HA[25] HA[26] HA[27] HA[28] HA[29] HA[30] HA[31]
ADS# 001:C6
HREQ#[0-4] 001:D5
HREQ#[0] HREQ#[1] HREQ#[2] HREQ#[3] HREQ#[4]
BREQ0# 001:C7
BPRI# 001:C7
BNR# 001:C7
HLOCK# 001:C7
HIT# 001:C7
HITM# 001:C8
DEFER# 001:C8
DBSY# 001:B10
DRDY# 001:B10
HTRDY# 001:C8
RS0# 001:C9
RS1# 001:C9
RS2# 001:C9
CPURST# 001:A11;002:D9;002:I4
CRESET# 033:B2
HCLKIN HCLKBX 006:H2
C79 NU
MA[0-13]
08:D8,004:A9;007:I1;008:D8,007:I1;008:F8,004:A10;007:I1;008:G8,004:A11;007:I1;008:G8
VB3
MA[6] 10K R55 Desktop GTL+ / Mobile GTL+
MA[8] NU R57 Reserved
MA[9] NU R58 AGP Enable Disable
MA[10] 10K R59 Stop Clock / Quick Start
R547 10K
MA[12] 10K R61 Host 66Mhz / 100MHz
DTC114YE Q81 NU SEL66M 006:C1;028:G4
MA[13] NU R62 Reserved
DCLKO DCLKRD DCLKWR
AB21 AB22 AD25
R63 TP71
BUFIN 006:B9
DCLKREF 006:F10
C127 NU
C78 NU

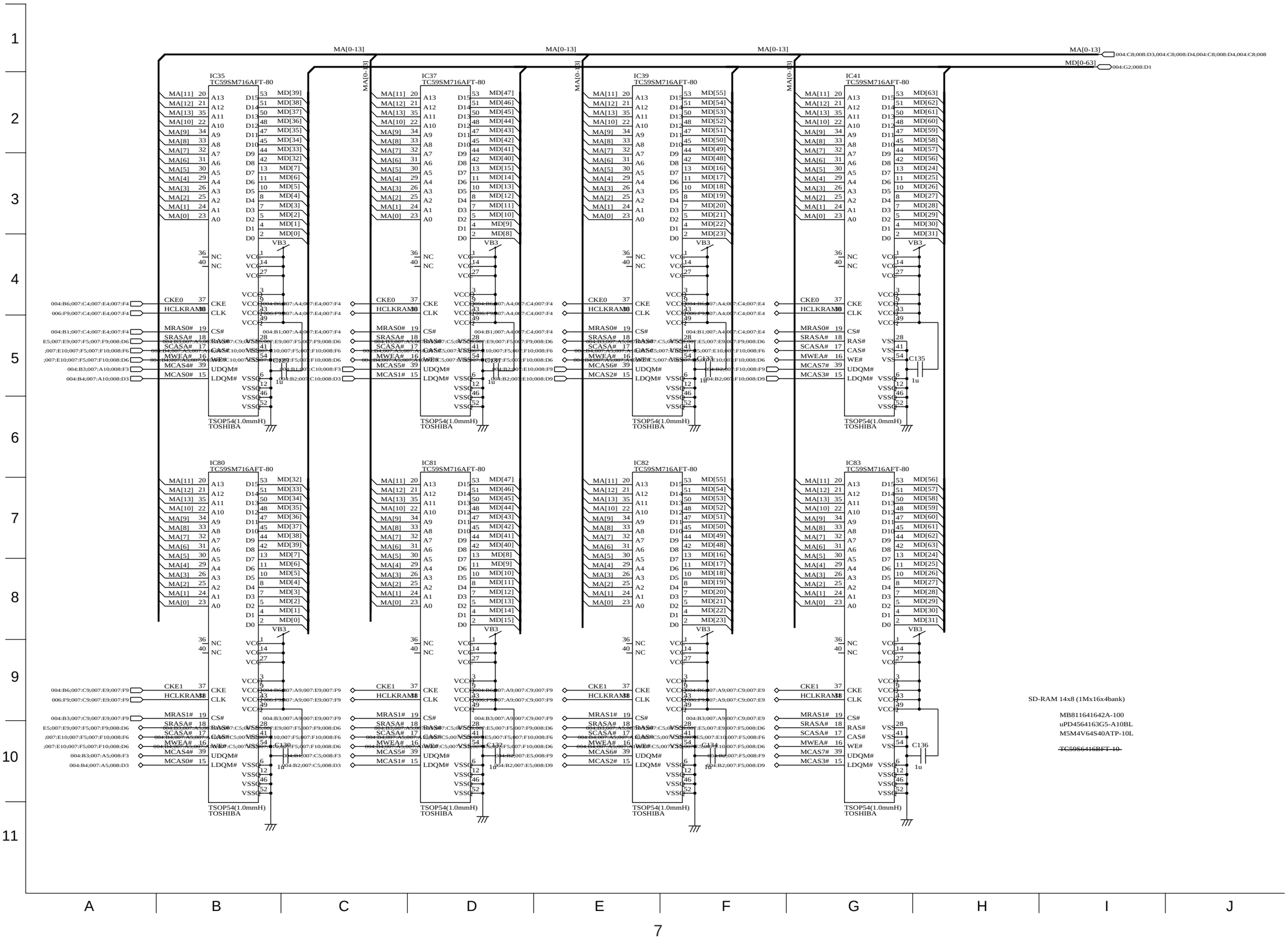
Main 5 CORE (2/2)

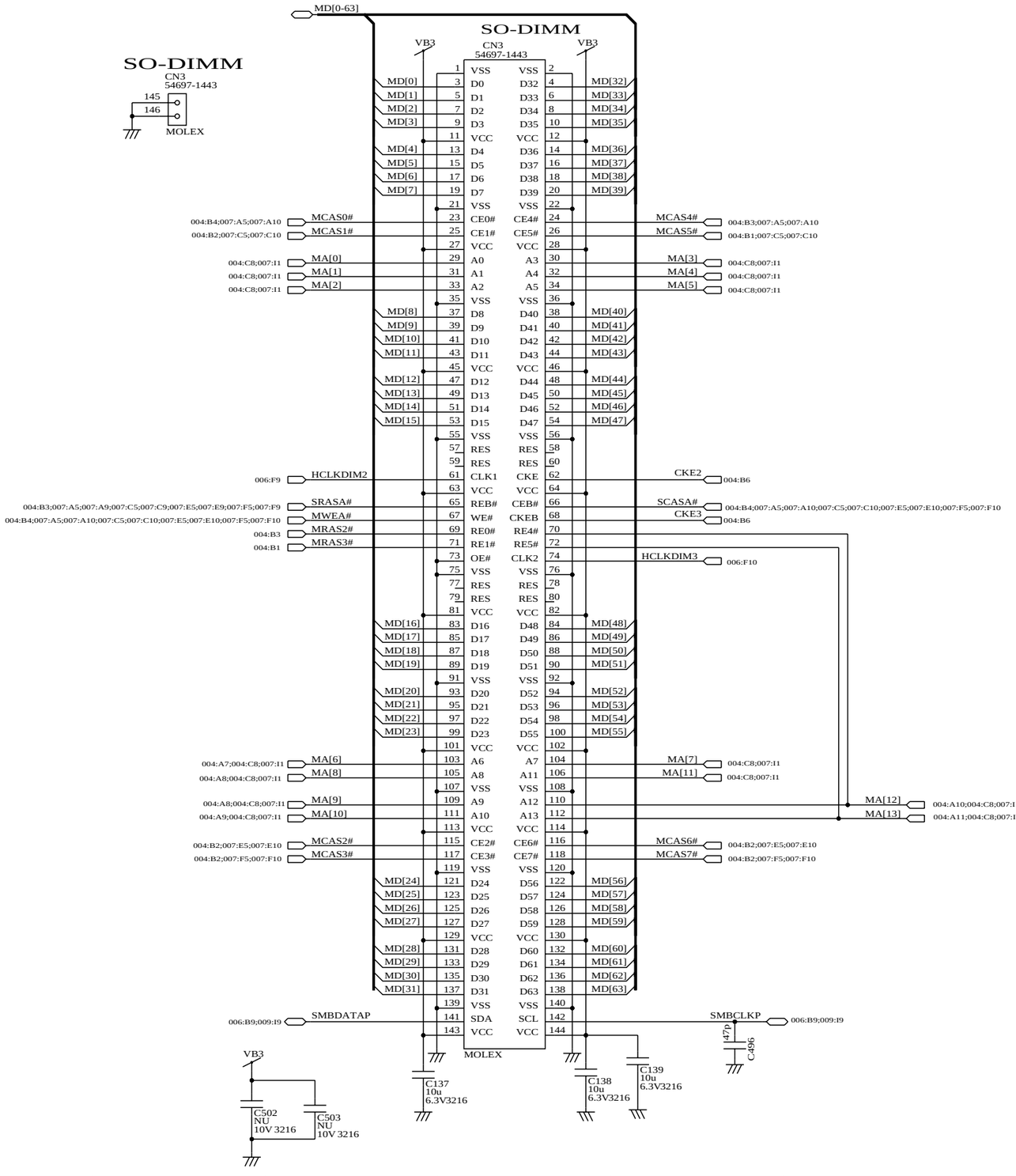


Main 6 CLOCK

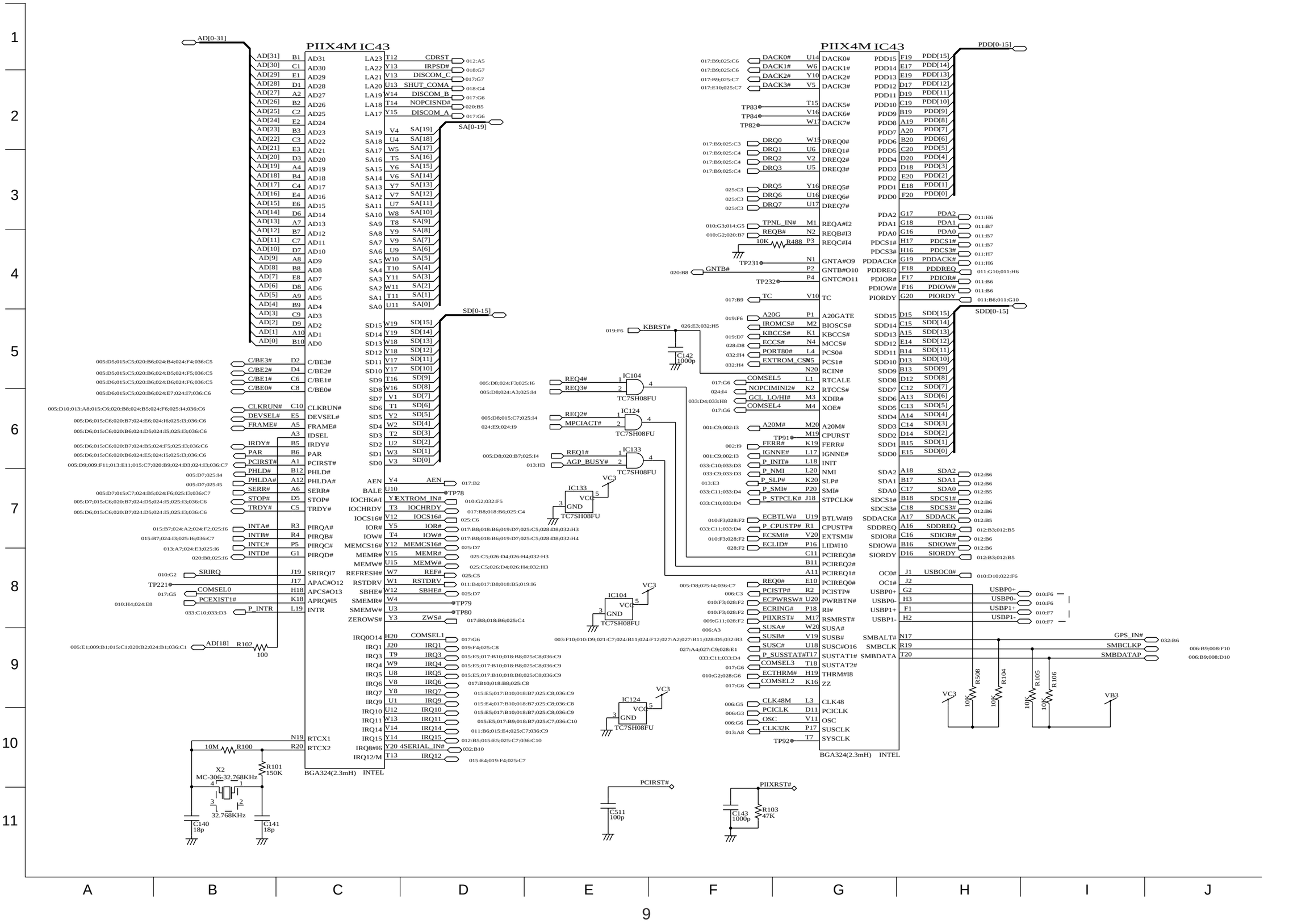

VC3CK
R68 10K
R69 NU
DTC114YE Q82
NU
SEL66M
004:B10;028:G4
SEL100/66#
006:C3
IC34 IMIC9714ATB
C105 NU
FCX-03-14.318Mhz 14.318MHz
X1
R72 1M
C106 NU
R71 100
XTAL_IN
XTAL_OUT
CPUCLK0
CPUCLK1
TP77
R88 10
C113 10P
R97 10
R98 10
HCLKCPU
001:A11
HCLKBX
004:I9
H = 32mm ~ 34mm
D4 MA729
R70 10K
VC3
SUSA#
009:F9
006:B2
SEL100/66#
PWRDWN#
PCISTP#
009:F8
CPUSTP#
033:E11;033:F4;033:H8
2125
8.2 L5
C104 0.1u
BLM21A121 L4
C101 10u 6.3V3216
C103 0.1u
C108 0.1u
C110 0.1u
VDDREF
VDDCORE
VDDPCI
VDD48
VDDCPU
PCICLK_F
PCICLK1
PCICLK2
PCICLK3
PCICLK4
PCICLK5
R84 33
R85 33
R86 33
R87 33
R83 33
R82 33
R467 33
PCICLK
009:F10
PCLKBX
005:D10
PCLKCD2
036:C7
PCLKCD1
015:C7
PCLKSND
020:B9
PCLKEX1
024:A3
PCLKEX2
024:F3
A + H + 65mm < C1 < A +H +130mm
VC25
VC25CK
BLM21A121 L3
6.3V 10u
C100 3216
C112 0.1u
VSSREF
VSSCORE
VSSPCI
VSS48
VSSCPU
48MHz
48-24MHz/TS#
REF0/SPREAD#
REF1/SEL48#
SSOP28(2mH)
IMI
R73 10K
R74 NU
R81 NU
R90 33
C495 NU
C114 NU
C116 NU
C119 NU
C122 NU
C125 NU
C128 NU
L57
BK1608LL121
CLK48M
009:F10
R76 10K
R89 10K
R92 33
R93 33
OSC
009:F10
VGA14M
013:A7
C118 NU
C121 NU
C126 NU
IC132 TC7WH14FU
R96 33
R464 33
R462 33
R94 NU
R91 NU
SIOCLK1
017:B10
SIOCLK2
018:B8
GVLCLK
033:C6
C491 NU
C492 NU
C494 10p
VC3CK
IC132 TC7WH14FU
VCC
GND
C514 0.1u
IC32 IMICB664ETB
IC33-AB21～IC32-5 ≦ 101.6mm
A=B+20mm B≦101.6mm
BUFIN
004:F10
SMBDATAP
008:D10;009:I9
SMBCLKP
008:F10;009:I9
BUF_IN
SDATA
SCLK
SDRAM0
SDRAM1
SDRAM2
SDRAM3
SDRAM4
SDRAM5
SDRAM6
R77 18
R75 18
R78 0
R79 0
R80 18
HCLKRAM0
007:A4;007:C4;007:E4;007:F4
HCLKRAM1
007:A9;007:C9;007:E9;007:F9
HCLKDIM2
008:D5
HCLKDIM3
008:F6
DCLKREF
004:F10
VB3
2125
BLM21A121 L6
C102 10u 6.3V3216
C107 0.1u
C109 0.1u
C111 0.1u
TSSOP16[1.1mH] IMI
DCLKREF: A+(63.5±2.54)mm
C115 NU
C117 NU
C120 10P
C123 NU
C127～R80 ≦ 5.08mm

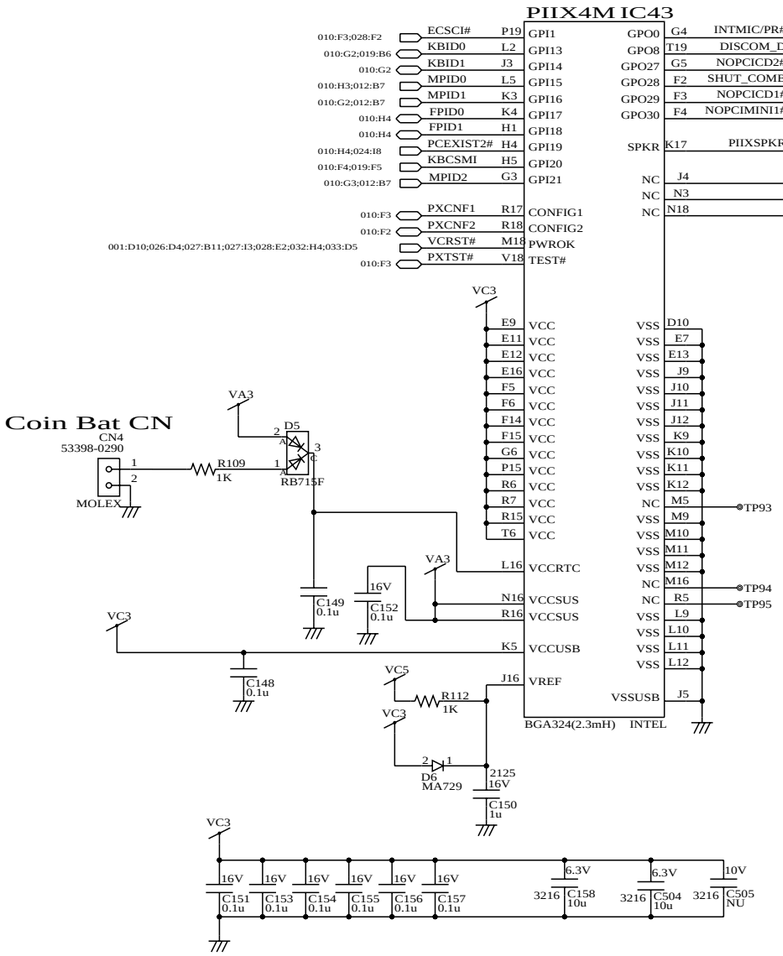
Main 7 ONBOARD MEMORY

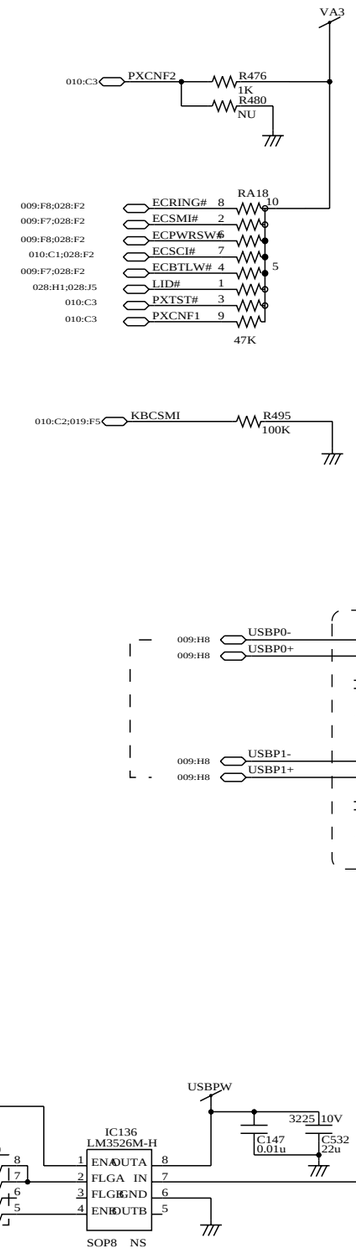


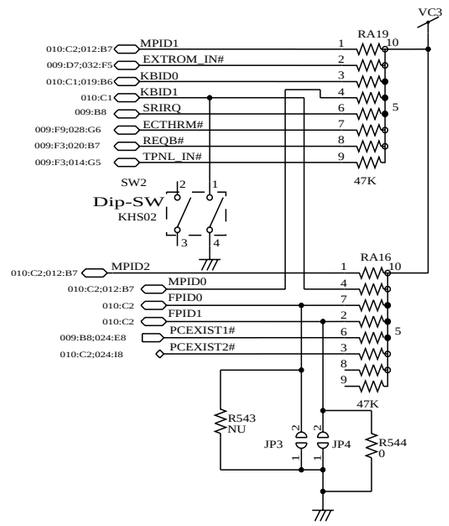

SO-DIMM
CN3
54697-1443
145
146
MOLEX
MD[0-63]
SO-DIMM
CN3
54697-1443
VB3
VB3
MOLEX
MCAS0#
MCAS1#
MCAS2#
MCAS3#
MCAS4#
MCAS5#
MCAS6#
MCAS7#
MA[0]
MA[1]
MA[2]
MA[3]
MA[4]
MA[5]
MA[6]
MA[7]
MA[8]
MA[9]
MA[10]
MA[11]
MA[12]
MA[13]
SRASA#
MWEA#
MRAS2#
MRAS3#
SCASA#
CKE2
CKE3
HCLKDIM2
HCLKDIM3
SMBDATAP
SMBCLKP
C137
10u
6.3V3216
C138
10u
6.3V3216
C139
10u
6.3V3216
C502
NU
10V 3216
C503
NU
10V 3216
C496
47p

Main 9 PIIX4,USB (1/2)







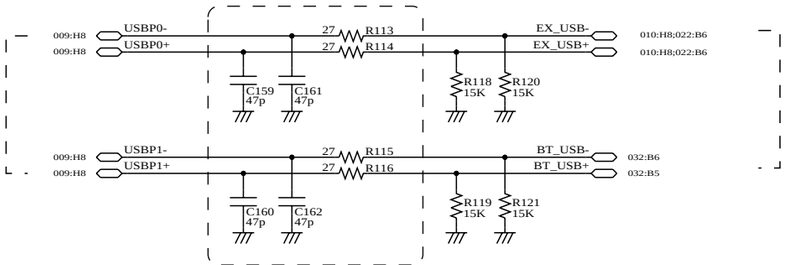


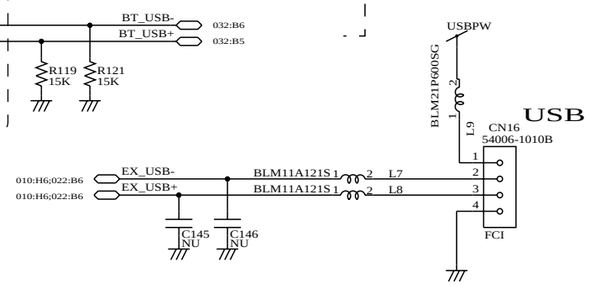
KB-ID

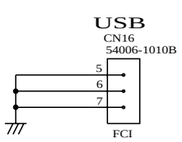
KBID1	KBID0	
NC	NC	US,UK
NC	0	JP
0	NC	w/BL
0	0	RSV

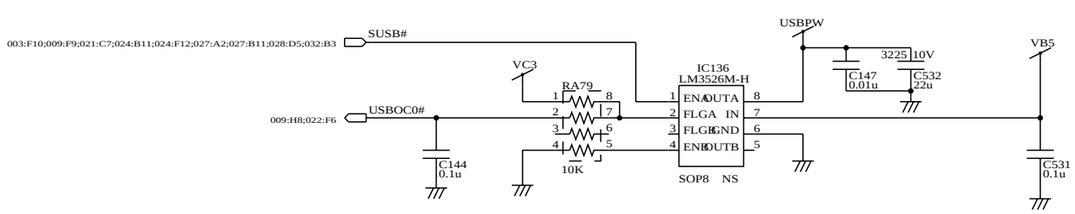
LCD-ID

JP4	JP3	PANEL
Short	Open	13.3"XGA TFT
Open	Open	12.1"SVGATFT

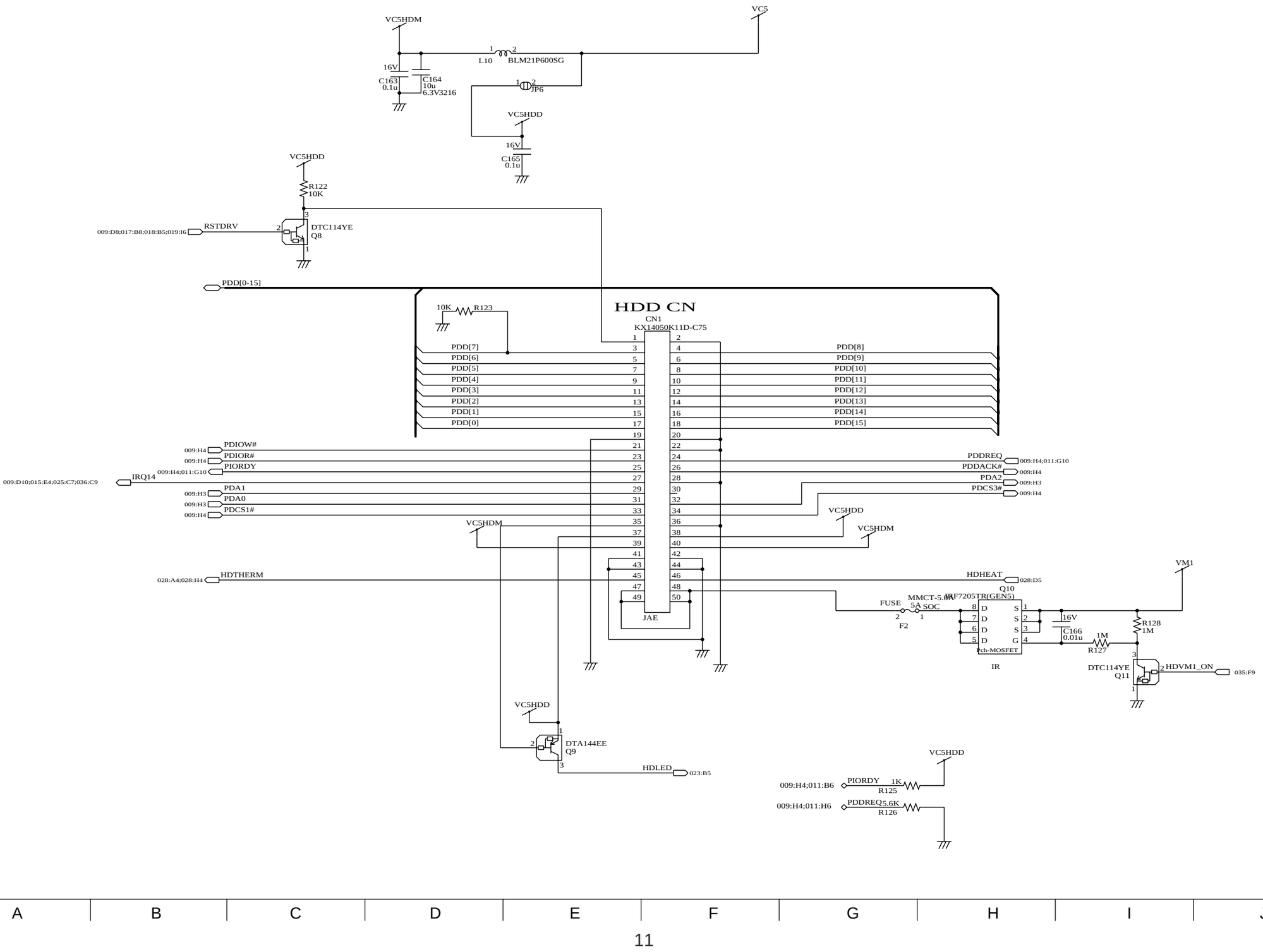




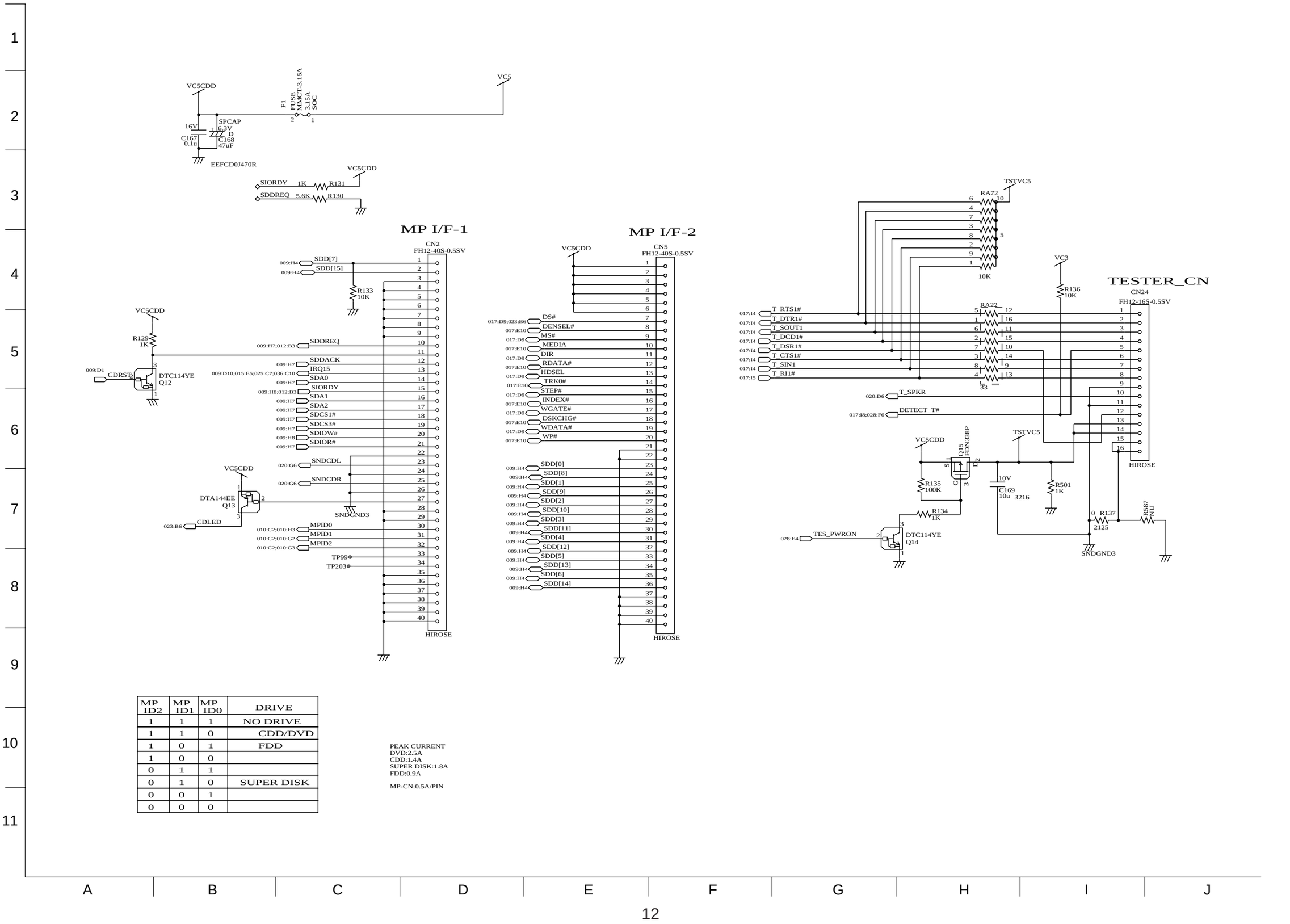




Main 11 HDD


VC5HDM
VC5
L10
BLM21P600SG
16V
C163
0.1u
C164
10u
6.3V3216
JP6
VC5HDD
C165
0.1u
R122
10K
RSTDRV
009:D8;017:B8;018:B5;019:I6
DTC114YE
Q8
PDD[0-15]
HDD CN
CN1
KX14050K11D-C75
10K
R123
PDD[7]
PDD[6]
PDD[5]
PDD[4]
PDD[3]
PDD[2]
PDD[1]
PDD[0]
PDD[8]
PDD[9]
PDD[10]
PDD[11]
PDD[12]
PDD[13]
PDD[14]
PDD[15]
PDIOW#
PDIOR#
PIORDY
IRQ14
009:D10;015:E4;025:C7;036:C9
PDA1
PDA0
PDCS1#
JAE
PDDREQ
PDDACK#
PDA2
PDCS3#
HDTHERM
028:A4;028:H4
HDHEAT
028:D5
Q10
IRF7205TR(GEN5)
FUSE
MMCT-5.0A
5A SOC
F2
Pch-MOSFET
IR
R128
1M
R127
1M
C166
0.01u
DTC114YE
Q11
HDVM1_ON
035:F9
VM1
DTA144EE
Q9
HDLED
023:B5
PIORDY
1K
R125
PDDREQ
5.6K
R126
009:H4;011:B6
009:H4;011:H6

Main 12 MP,TESTER CN

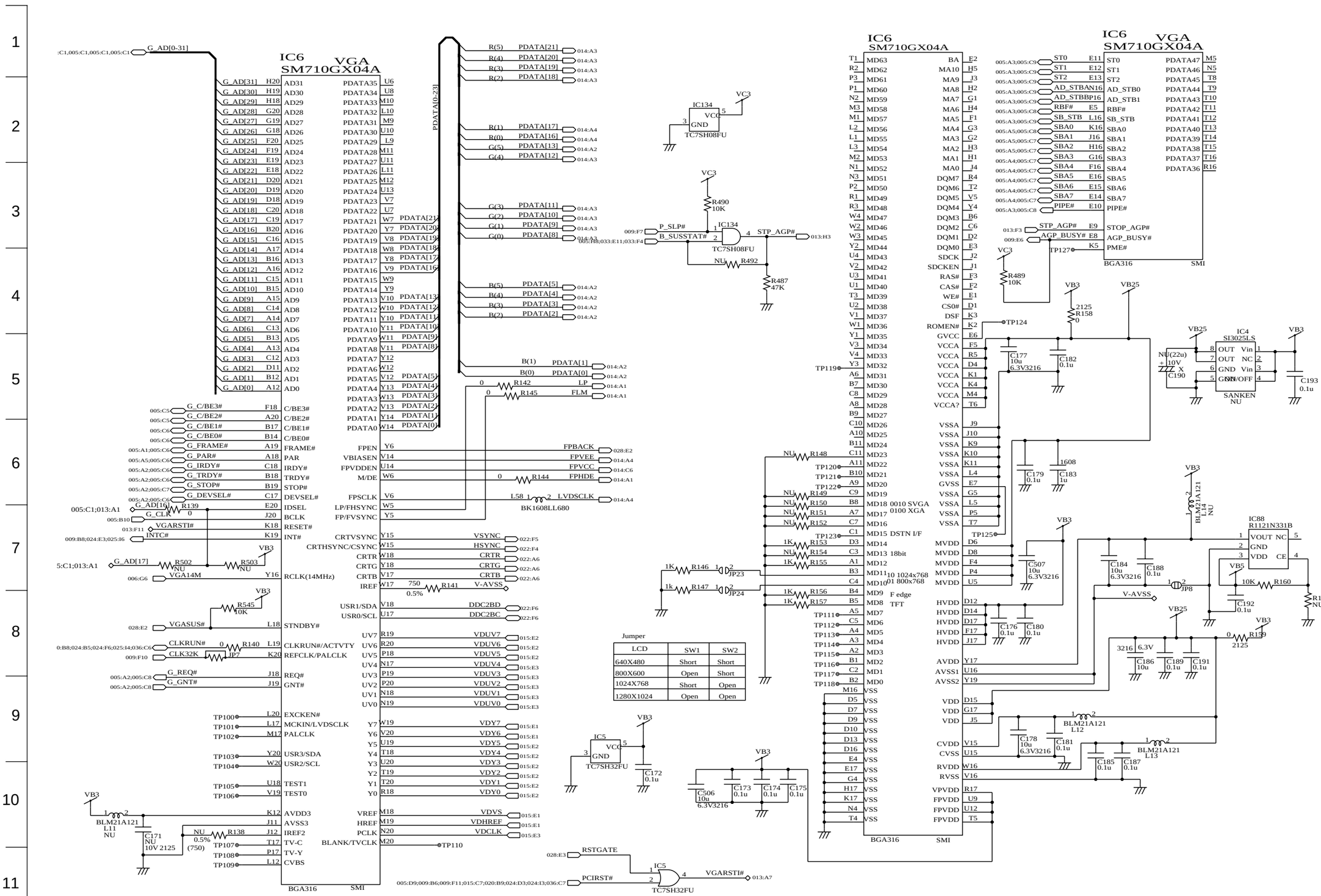


MP ID2	MP ID1	MP ID0	DRIVE
1	1	1	NO DRIVE
1	1	0	CDD/DVD
1	0	1	FDD
1	0	0	
0	1	1	
0	1	0	SUPER DISK
0	0	1	
0	0	0	

PEAK CURRENT
DVD:2.5A
CDD:1.4A
SUPER DISK:1.8A
FDD:0.9A

MP-CN:0.5A/PIN

Main 13 VGA


IC6 VGA SM710GX04A
G_AD[0-31]
PDATA[0-23]
G_C/BE3#
G_C/BE2#
G_C/BE1#
G_C/BE0#
G_FRAME#
G_PAR#
G_IRDY#
G_TRDY#
G_STOP#
G_DEVSEL#
G_CLK
VGARSTI#
INTC#
VGASUS#
CLKRUN#
CLK32K
G_REQ#
G_GNT#
FPEN
VBIASEN
FPVDDEN
M/DE
FPSCLK
LP/FHSYNC
FP/FVSYNC
CRTVSYNC
CRTHSYNC/CSYNC
CRTR
CRTG
CRTB
IREF
USR1/SDA
USR0/SCL
VGA14M
RCLK(14MHz)
STNDBY#
CLKRUN#/ACTVTY
REFCLK/PALCLK
REQ#
GNT#
EXCKEN#
MCKIN/LVDSCLK
PALCLK
USR3/SDA
USR2/SCL
TEST1
TEST0
AVDD3
AVSS3
IREF2
TV-C
TV-Y
CVBS
BGA316
SMI
IC134
TC7SH08FU
P_SLP#
B_SUSSTAT#
STP_AGP#
IC6 SM710GX04A
MD63
MD62
MD61
MD60
MD59
MD58
MD57
MD56
MD55
MD54
MD53
MD52
MD51
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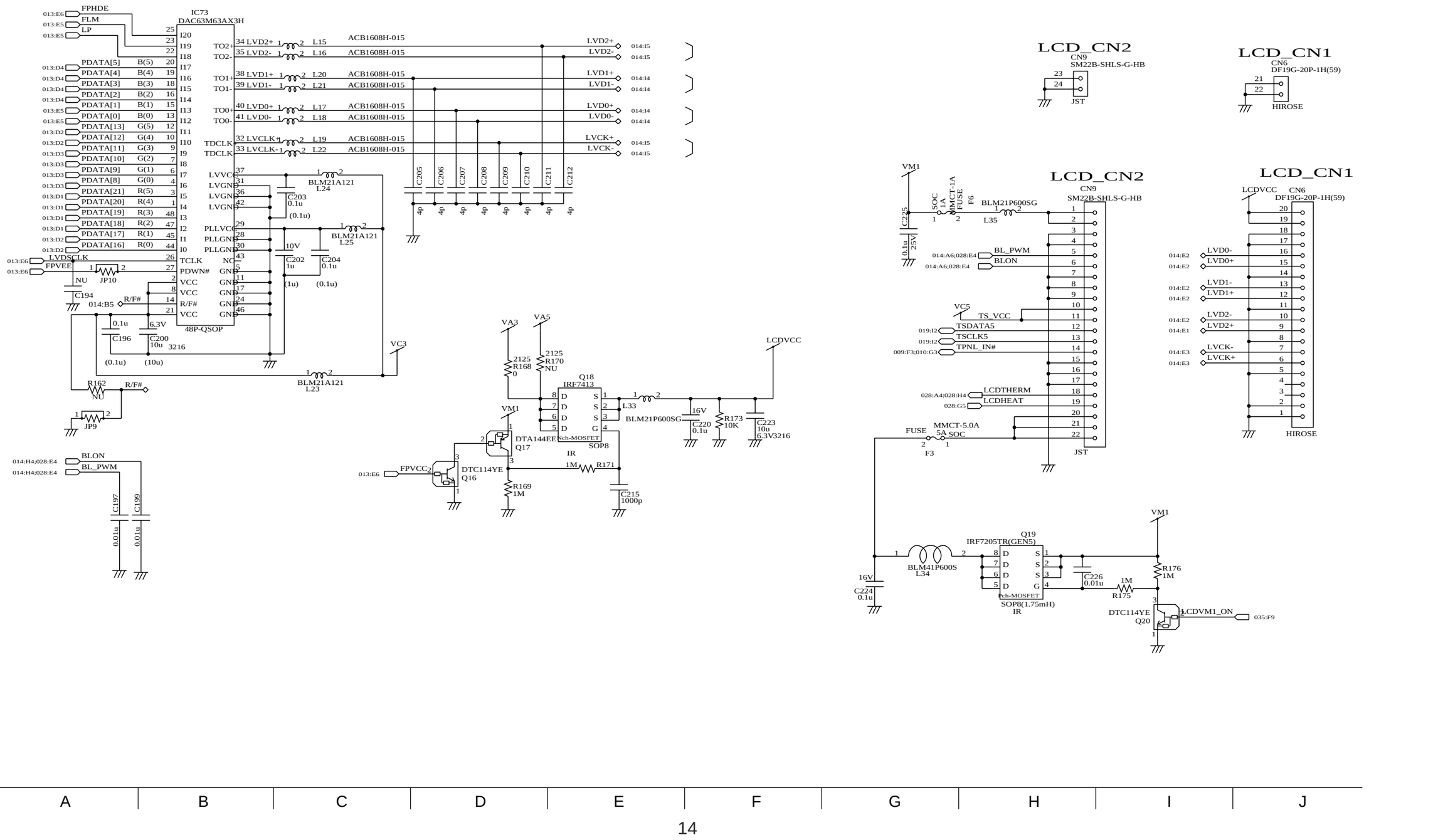
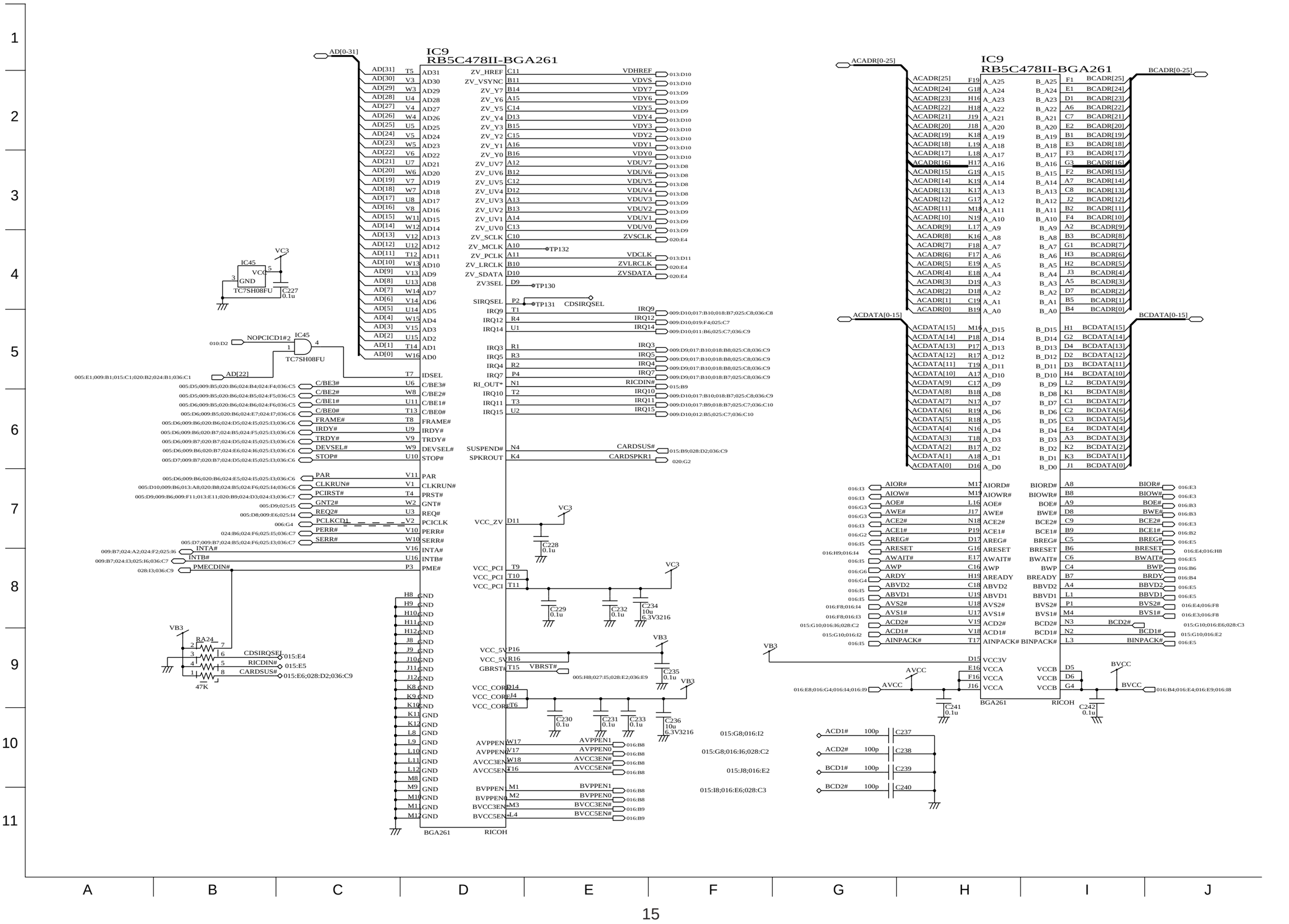
MD31
MD30
MD29
MD28
MD27
MD26
MD25
MD24
MD23
MD22
MD21
MD20
MD19
MD18 0010 SVGA 0100 XGA
MD17
MD16
MD15 DSTN I/F
MD14
MD13 18bit
MD12
MD11 10 1024x768 01 800x768
MD10
MD9 F edge
MD8 TFT
MD7
MD6
MD5
MD4
MD3
MD2
MD1
MD0
BA
MA10
MA9
MA8
MA7
MA6
MA5
MA4
MA3
MA2
MA1
MA0
DQM7
DQM6
DQM5
DQM4
DQM3
DQM2
DQM1
DQM0
SDCK
SDCKEN
RAS#
CAS#
WE#
CS0#
DSF
ROMEN#
GVCC
VCCA
VSSA
GVSS
MVDD
HVDD
AVDD
AVSS1
AVSS2
VDD
CVDD
CVSS
RVDD
RVSS
VPVDD
FPVDD
IC6 VGA SM710GX04A
ST0
ST1
ST2
AD_STB0
AD_STB1
RBF#
SB_STB
SBA0
SBA1
SBA2
SBA3
SBA4
SBA5
SBA6
SBA7
PIPE#
STOP_AGP#
AGP_BUSY#
PME#
PDATA47
PDATA46
PDATA45
PDATA44
PDATA43
PDATA42
PDATA41
PDATA40
PDATA39
PDATA38
PDATA37
PDATA36
BGA316
SMI
IC4 SI3025LS
SANKEN
IC88 R1121N331B
IC5 TC7SH32FU
RSTGATE
PCIRST#
VGARSTI#
Jumper
LCD SW1 SW2
640X480 Short Short
800X600 Open Short
1024X768 Short Open
1280X1024 Open Open

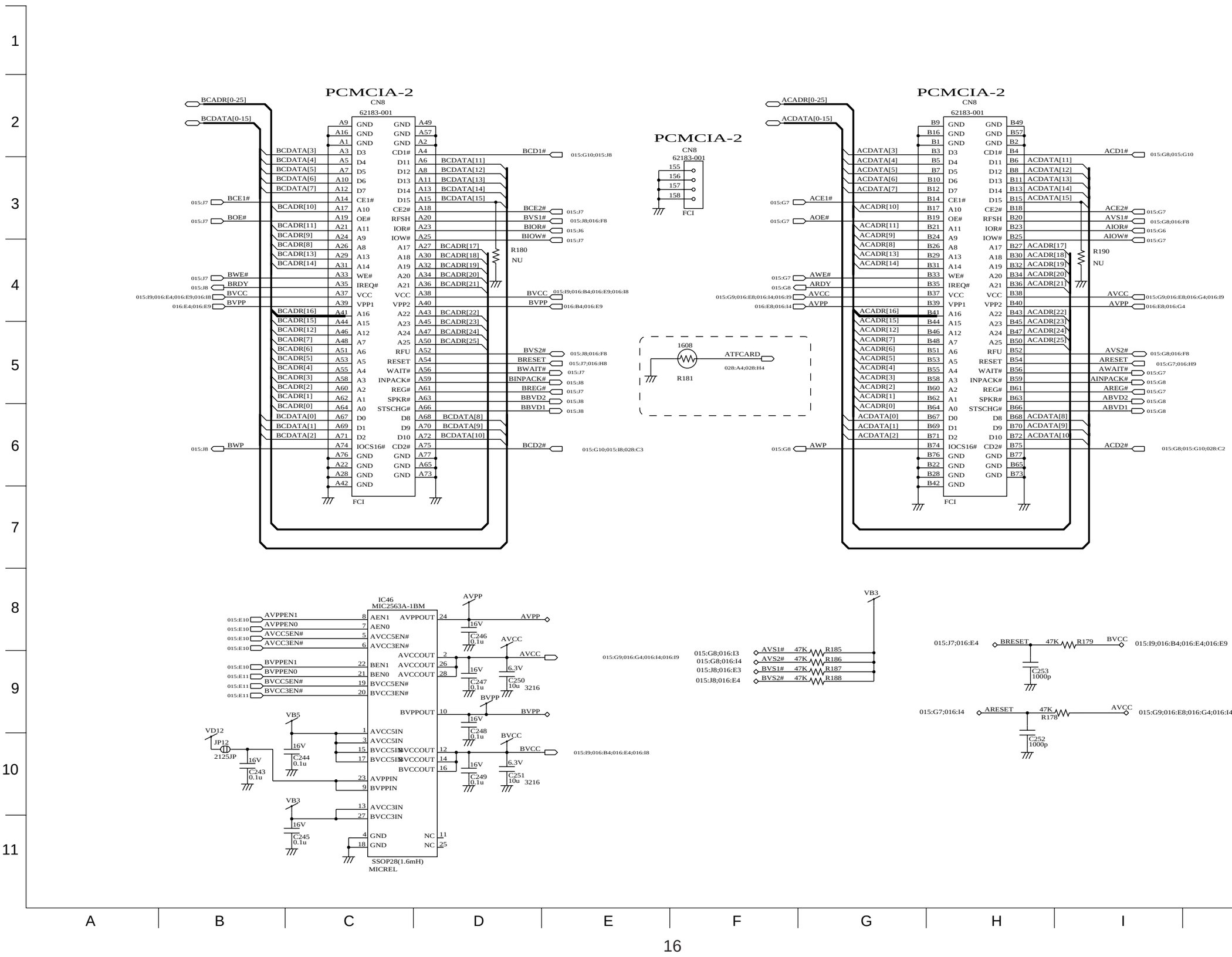
Main 14 LCD&CRT I/F,LVDS

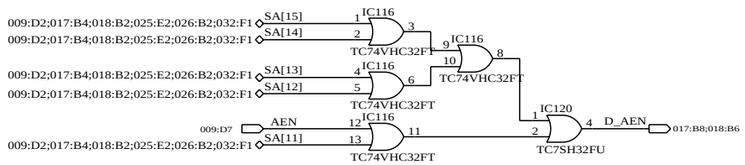


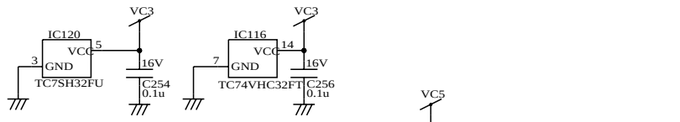
Main 15 PCMCIA CONT.

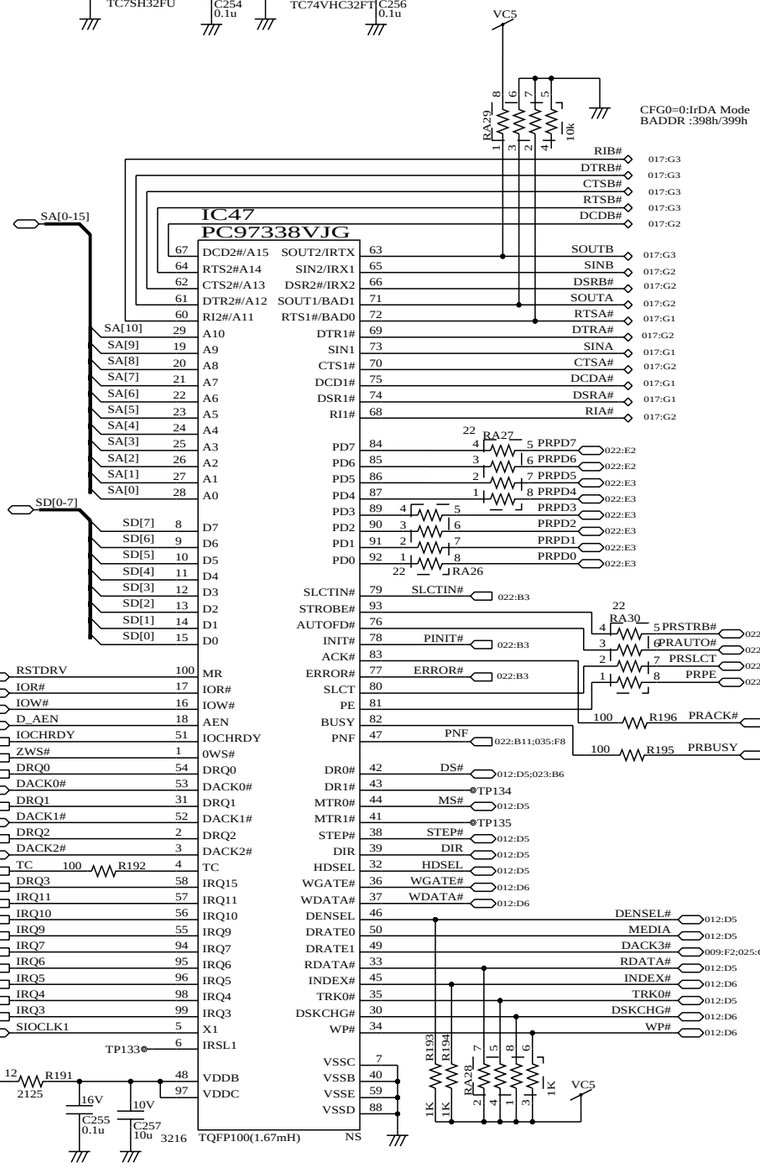


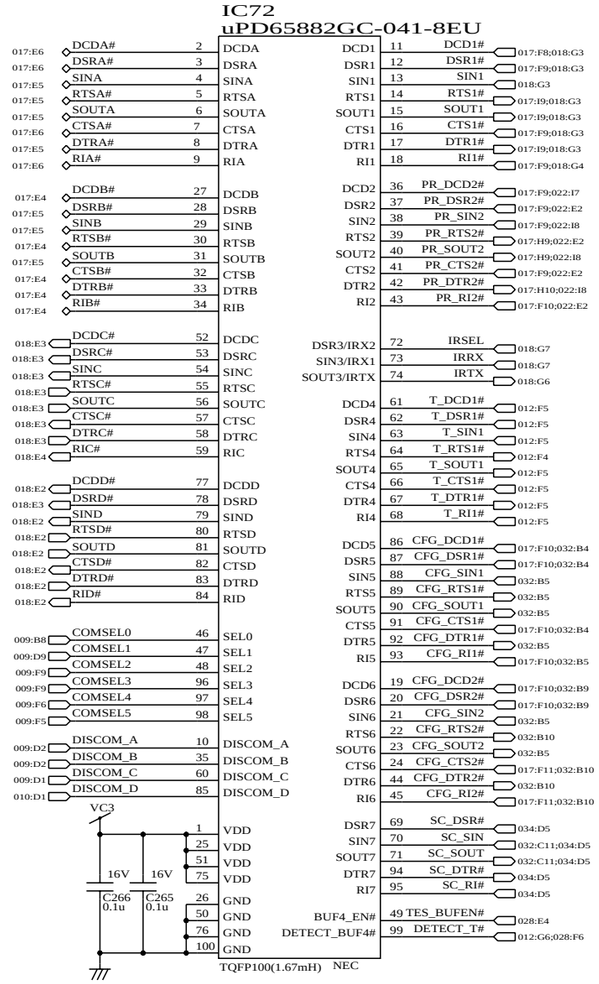
Main 16 PCMCIA I/F

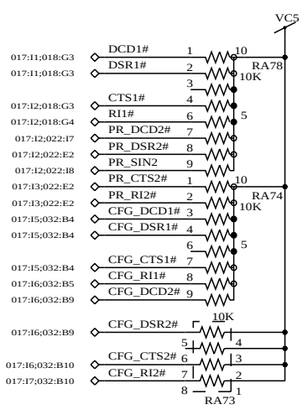


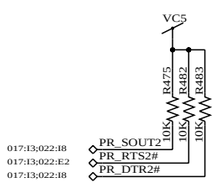

009:D2;017:B4;018:B2;025:E2;026:B2;032:F1
SA[15]
SA[14]
IC116
TC74VHC32FT
SA[13]
SA[12]
009:D7
AEN
SA[11]
IC120
TC7SH32FU
D_AEN
017:B8;018:B6

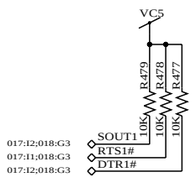

VC3
IC120
VCC
GND
TC7SH32FU
16V
C254
0.1u
IC116
TC74VHC32FT
C256

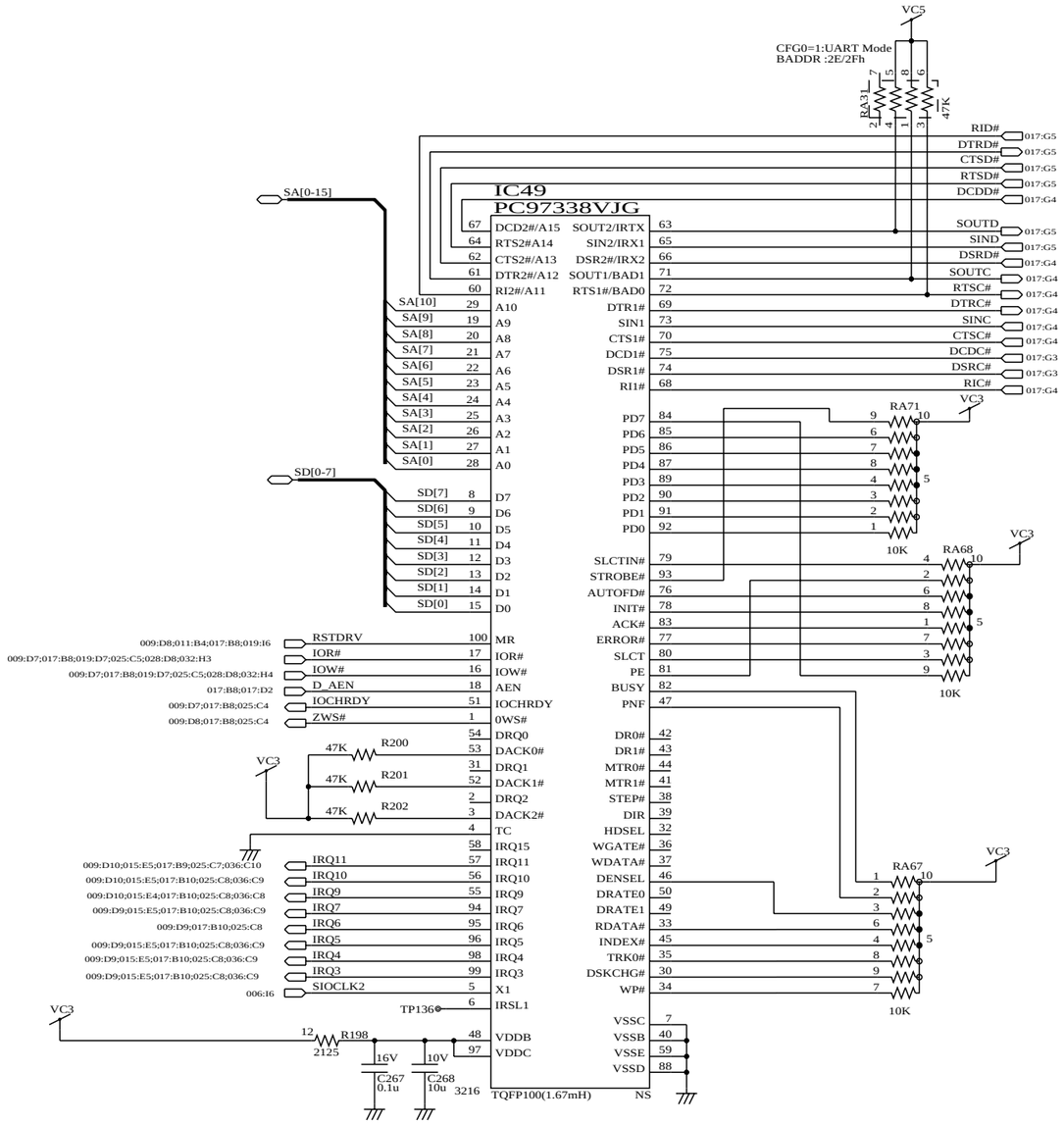

VC5
RA29
10k
CFG0=0:IrDA Mode
BADDR :398h/399h
IC47
PC97338VJG
SA[0-15]
SD[0-7]
RSTDRV
IOR#
IOW#
D_AEN
IOCHRDY
ZWS#
DRQ0
DACK0#
DRQ1
DACK1#
DRQ2
DACK2#
TC
DRQ3
IRQ11
IRQ10
IRQ9
IRQ7
IRQ6
IRQ5
IRQ4
IRQ3
SIOCLK1
IRSL1
VDDB
VDDC
TQFP100(1.67mH)
RIB#
DTRB#
CTSB#
RTSB#
DCDB#
SOUTB
SINB
DSRB#
SOUTA
RTSA#
DTRA#
SINA
CTSA#
DCDA#
DSRA#
RIA#
RA27
RA26
RA30
PRPD7
PRPD6
PRPD5
PRPD4
PRPD3
PRPD2
PRPD1
PRPD0
SLCTIN#
PINIT#
ERROR#
PRSTRB#
PRAUTO#
PRSLCT
PRPE
PRACK#
PRBUSY
PNF
DS#
MS#
STEP#
DIR
HDSEL
WGATE#
WDATA#
DENSEL#
MEDIA
DACK3#
RDATA#
INDEX#
TRK0#
DSKCHG#
WP#
VSSC
VSSB
VSSE
VSSD
NS
R193
R194
RA28
1K
C255
0.1u
C257
10u
3216

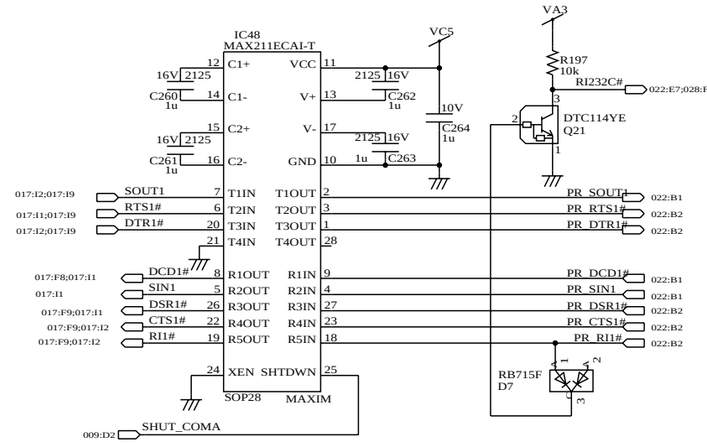

IC72
uPD65882GC-041-8EU
DCDA#
DSRA#
SINA
RTSA#
SOUTA
CTSA#
DTRA#
RIA#
DCDB#
DSRB#
SINB
RTSB#
SOUTB
CTSB#
DTRB#
RIB#
DCDC#
DSRC#
SINC
RTSC#
SOUTC
CTSC#
DTRC#
RIC#
DCDD#
DSRD#
SIND
RTSD#
SOUTD
CTSD#
DTRD#
RID#
COMSEL0
COMSEL1
COMSEL2
COMSEL3
COMSEL4
COMSEL5
DISCOM_A
DISCOM_B
DISCOM_C
DISCOM_D
VDD
GND
TQFP100(1.67mH)
NEC
DCD1#
DSR1#
SIN1
RTS1#
SOUT1
CTS1#
DTR1#
RI1#
PR_DCD2#
PR_DSR2#
PR_SIN2
PR_RTS2#
PR_SOUT2
PR_CTS2#
PR_DTR2#
PR_RI2#
IRSEL
IRRX
IRTX
T_DCD1#
T_DSR1#
T_SIN1
T_RTS1#
T_SOUT1
T_CTS1#
T_DTR1#
T_RI1#
CFG_DCD1#
CFG_DSR1#
CFG_SIN1
CFG_RTS1#
CFG_SOUT1
CFG_CTS1#
CFG_DTR1#
CFG_RI1#
CFG_DCD2#
CFG_DSR2#
CFG_SIN2
CFG_RTS2#
CFG_SOUT2
CFG_CTS2#
CFG_DTR2#
CFG_RI2#
SC_DSR#
SC_SIN
SC_SOUT
SC_DTR#
SC_RI#
TES_BUFEN#
DETECT_T#
BUF4_EN#
DETECT_BUF4#

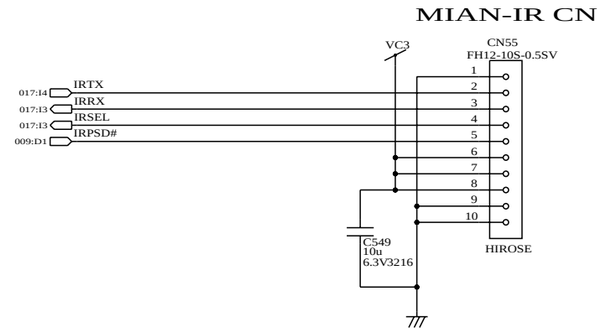

VC5
RA78
RA74
RA73
10K
DCD1#
DSR1#
CTS1#
RI1#
PR_DCD2#
PR_DSR2#
PR_SIN2
PR_CTS2#
PR_RI2#
CFG_DCD1#
CFG_DSR1#
CFG_CTS1#
CFG_RI1#
CFG_DCD2#
CFG_DSR2#
CFG_CTS2#
CFG_RI2#

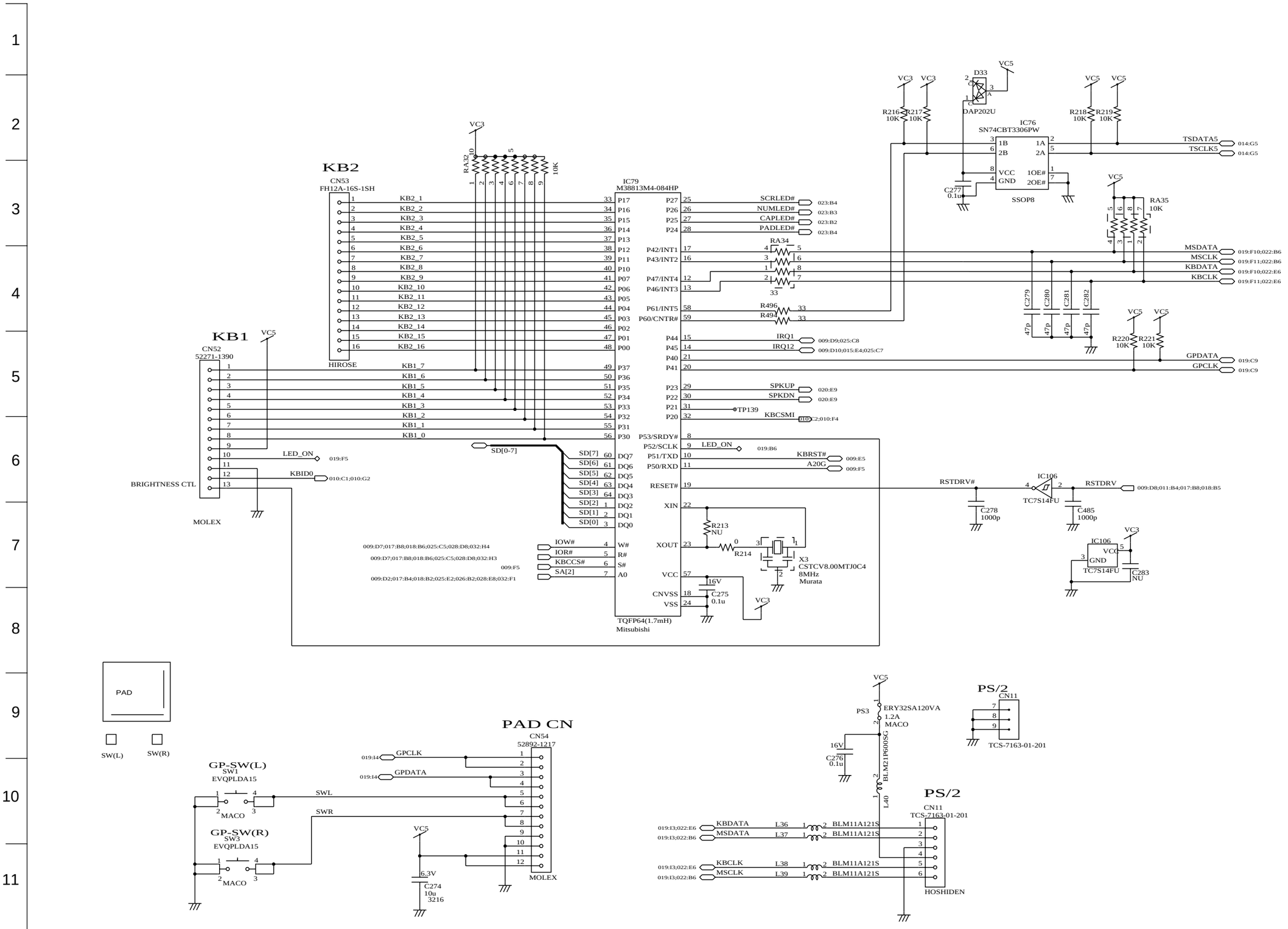

VC5
R475
R482
R483
10K
PR_SOUT2
PR_RTS2#
PR_DTR2#


VC5
R479
R478
R477
10K
SOUT1
RTS1#
DTR1#

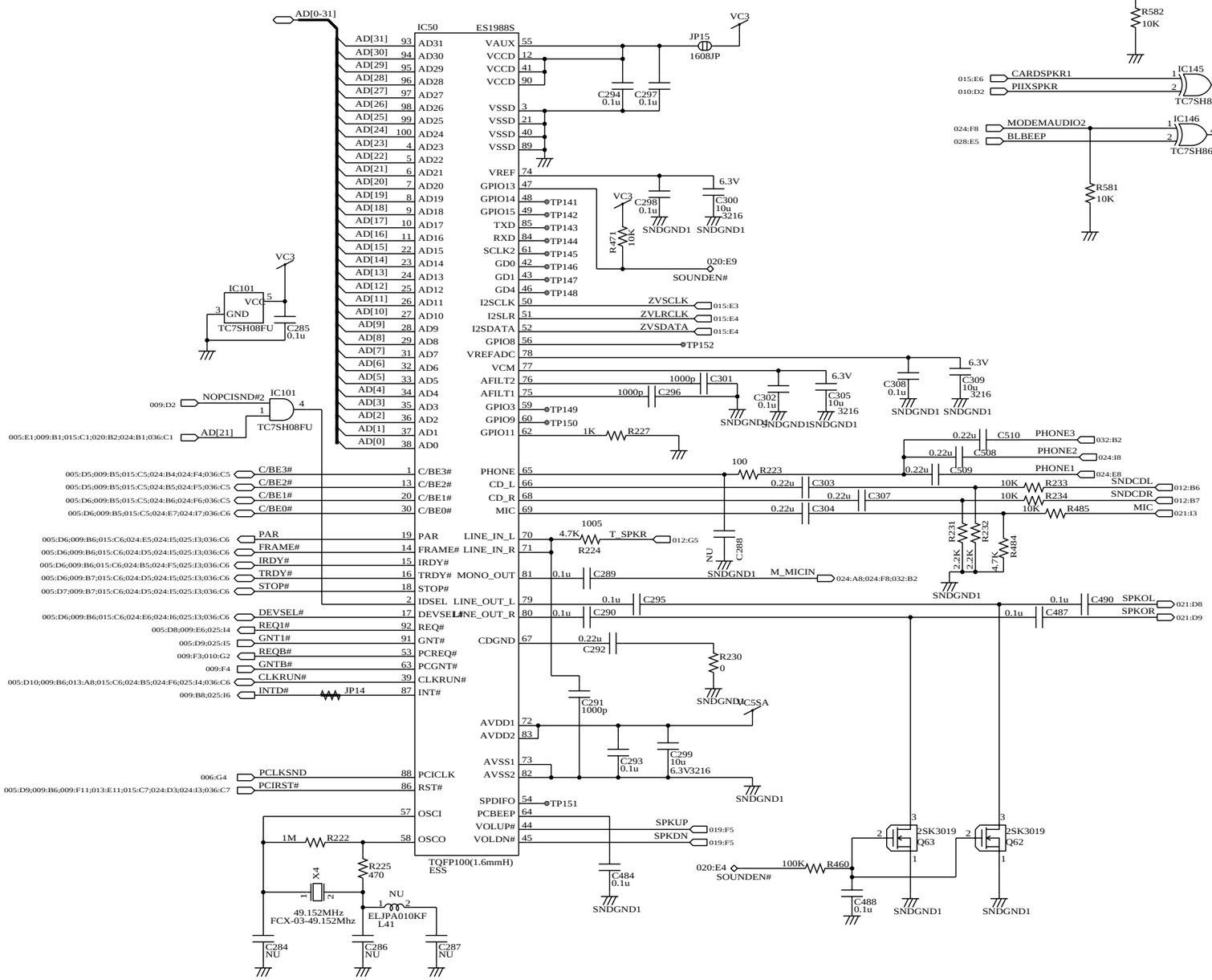

IC49
PC97338VJG
VC5
CFG0=1:UART Mode
BADDR :2E/2Fh
RA31
47K
RID#
DTRD#
CTSD#
RTSD#
DCDD#
SA[0-15]
SD[0-7]
SOUTD
SIND
DSRD#
SOUTC
RTSC#
DTRC#
SINC
CTSC#
DCDC#
DSRC#
RIC#
VC3
RA71
10K
RA68
RA67
RSTDRV
IOR#
IOW#
D_AEN
IOCHRDY
ZWS#
R200
R201
R202
47K
IRQ11
IRQ10
IRQ9
IRQ7
IRQ6
IRQ5
IRQ4
IRQ3
SIOCLK2
TP136
R198
2125
C267
0.1u
C268
10u
3216
16V
10V
TQFP100(1.67mH)
NS


IC48
MAX211ECAI-T
VC5
VA3
R197
10k
RI232C#
DTC114YE
Q21
C260
C261
C262
C263
C264
1u
2125 16V
10V
C1+
C1-
C2+
C2-
VCC
V+
V-
GND
T1IN
T2IN
T3IN
T4IN
T1OUT
T2OUT
T3OUT
T4OUT
R1OUT
R2OUT
R3OUT
R4OUT
R5OUT
R1IN
R2IN
R3IN
R4IN
R5IN
XEN
SHTDWN
SOP28
MAXIM
SOUT1
RTS1#
DTR1#
DCD1#
SIN1
DSR1#
CTS1#
RI1#
PR_SOUT1
PR_RTS1#
PR_DTR1#
PR_DCD1#
PR_SIN1
PR_DSR1#
PR_CTS1#
PR_RI1#
RB715F
D7
SHUT_COMA

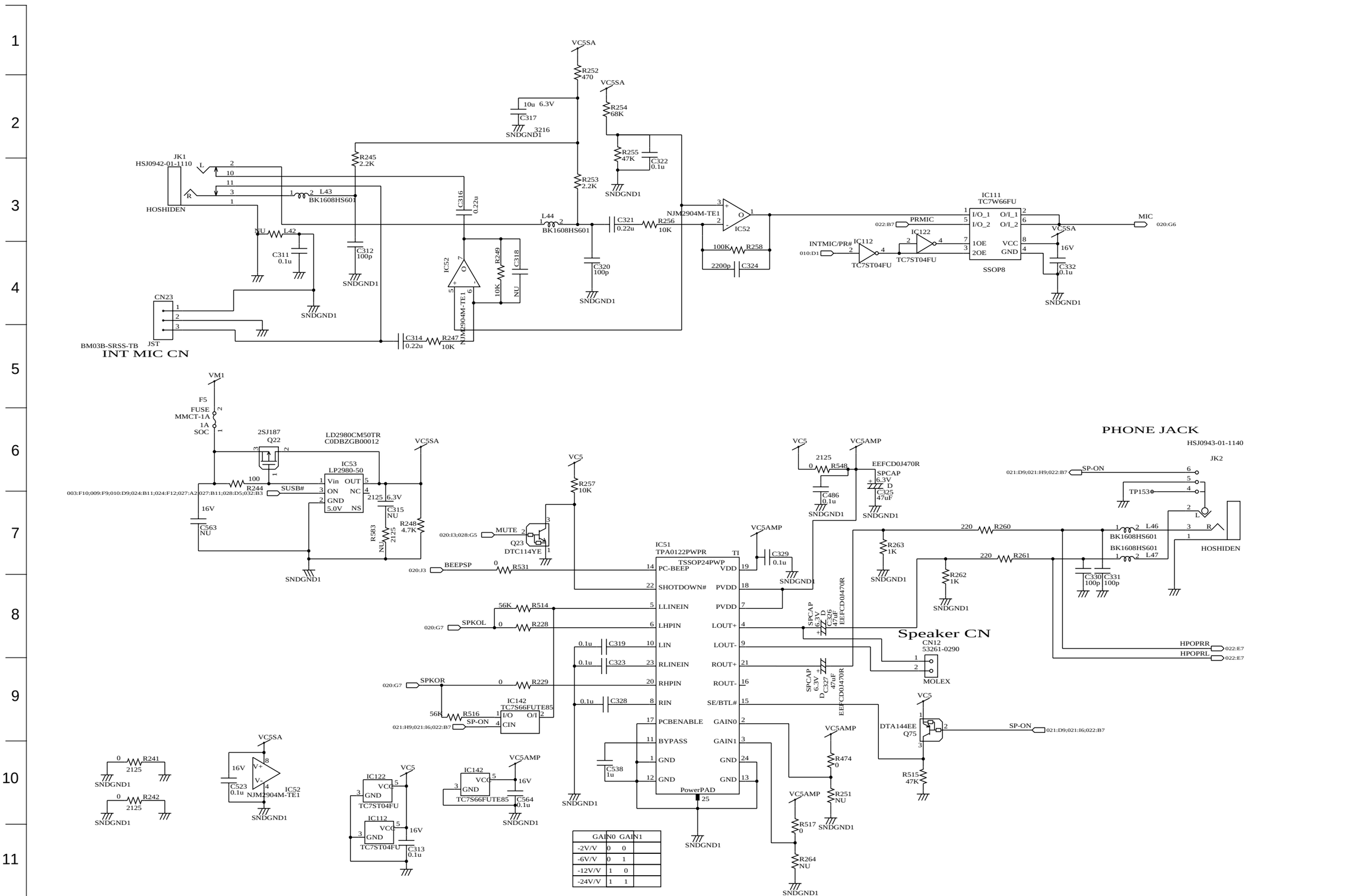

MIAN-IR CN
VC3
CN55
FH12-10S-0.5SV
IRTX
IRRX
IRSEL
IRPSD#
C549
10u
6.3V3216
HIROSE


KB2
CN53
FH12A-16S-1SH
HIROSE
KB2_1
KB2_2
KB2_3
KB2_4
KB2_5
KB2_6
KB2_7
KB2_8
KB2_9
KB2_10
KB2_11
KB2_12
KB2_13
KB2_14
KB2_15
KB2_16
RA32
10K
VC3
IC79
M38813M4-084HP
P17
P16
P15
P14
P13
P12
P11
P10
P07
P06
P05
P04
P03
P02
P01
P00
P37
P36
P35
P34
P33
P32
P31
P30
P27
P26
P25
P24
P42/INT1
P43/INT2
P47/INT4
P46/INT3
P61/INT5
P60/CNTR#
P44
P45
P40
P41
P23
P22
P21
P20
P53/SRDY#
P52/SCLK
P51/TXD
P50/RXD
RESET#
XIN
XOUT
VCC
CNVSS
VSS
SCRLED#
NUMLED#
CAPLED#
PADLED#
023:B4
023:B3
023:B2
023:B4
RA34
33
R496
R494
IRQ1
IRQ12
009:D9;025:C8
009:D10;015:E4;025:C7
SPKUP
SPKDN
020:E9
020:E9
TP139
KBCSMI
010:C2;010:F4
LED_ON
019:B6
KBRST#
009:E5
A20G
009:F5
RSTDRV#
R213
NU
R214
X3
CSTCV8.00MTJ0C4
8MHz
Murata
16V
C275
0.1u
TQFP64(1.7mH)
Mitsubishi
SD[0-7]
SD[7]
SD[6]
SD[5]
SD[4]
SD[3]
SD[2]
SD[1]
SD[0]
DQ7
DQ6
DQ5
DQ4
DQ3
DQ2
DQ1
DQ0
IOW#
IOR#
KBCCS#
SA[2]
W#
R#
S#
A0
009:D7;017:B8;018:B6;025:C5;028:D8;032:H4
009:D7;017:B8;018:B6;025:C5;028:D8;032:H3
009:F5
009:D2;017:B4;018:B2;025:E2;026:B2;028:E8;032:F1
KB1
CN52
52271-1390
MOLEX
KB1_7
KB1_6
KB1_5
KB1_4
KB1_3
KB1_2
KB1_1
KB1_0
LED_ON
019:F5
KBID0
010:C1;010:G2
BRIGHTNESS CTL
D33
DAP202U
R216
R217
10K
IC76
SN74CBT3306PW
SSOP8
1B
2B
VCC
GND
1A
2A
1OE#
2OE#
C277
0.1u
TSDATA5
TSCLK5
014:G5
014:G5
R218
R219
10K
RA35
10K
MSDATA
MSCLK
KBDATA
KBCLK
019:F10;022:B6
019:F11;022:B6
019:F10;022:E6
019:F11;022:E6
C279
C280
C281
C282
47p
R220
R221
10K
GPDATA
GPCLK
019:C9
019:C9
IC106
TC7S14FU
RSTDRV
009:D8;011:B4;017:B8;018:B5
C278
1000p
C485
1000p
C283
NU
PAD
SW(L)
SW(R)
PAD CN
CN54
52892-1217
MOLEX
GPCLK
GPDATA
019:I4
019:I4
GP-SW(L)
SW1
EVQPLDA15
MACO
SWL
GP-SW(R)
SW3
EVQPLDA15
SWR
6.3V
C274
10u
3216
PS3
ERY32SA120VA
1.2A
MACO
BLM21P600SG
L40
C276
0.1u
PS/2
CN11
TCS-7163-01-201
HOSHIDEN
KBDATA
MSDATA
KBCLK
MSCLK
L36
L37
L38
L39
BLM11A121S
019:I3;022:E6
019:I3;022:B6
019:I3;022:E6
019:I3;022:B6

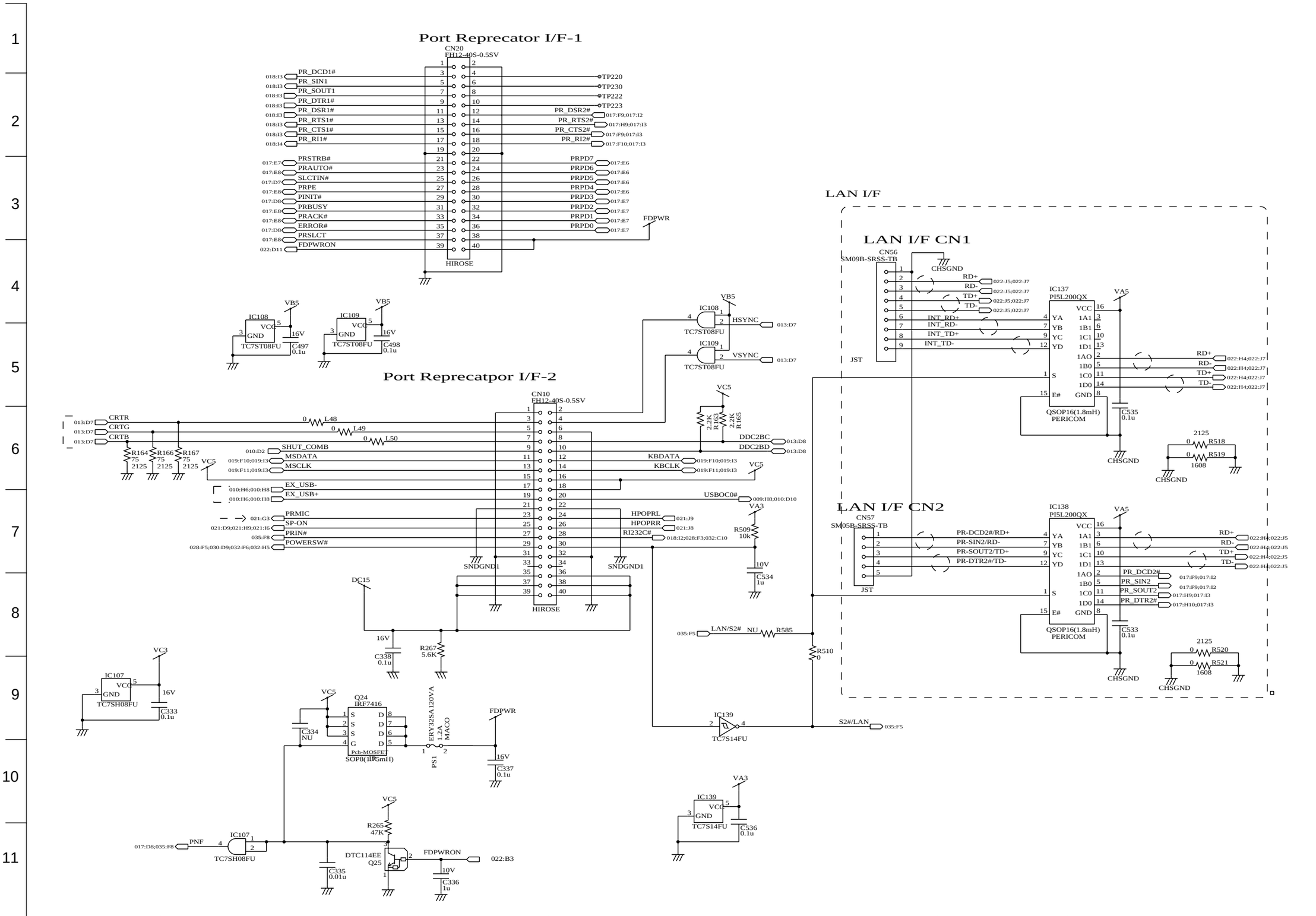
Main 20 SOUND IC



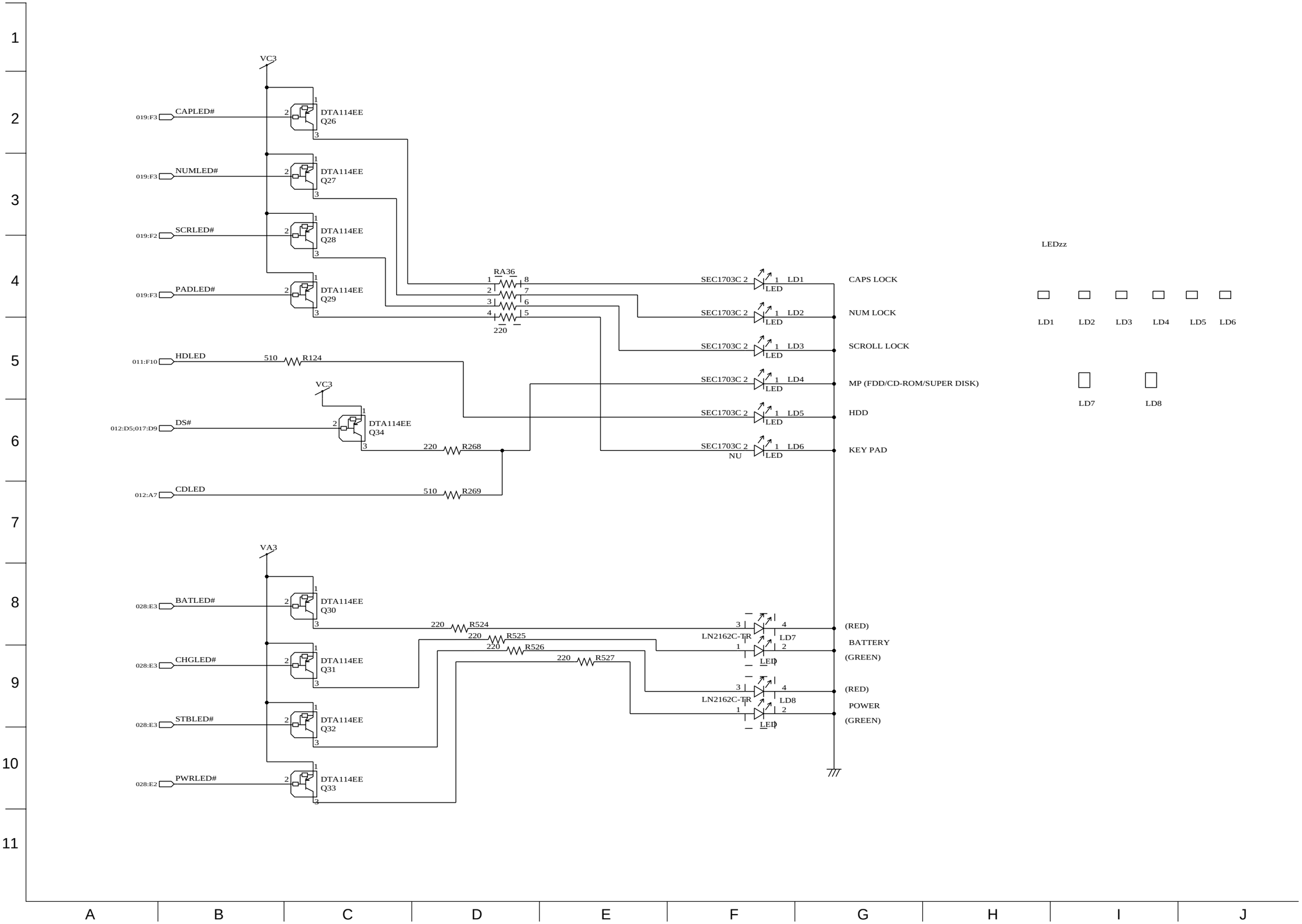
Main 21 Power Amp, MIC,SPK,H-PHONE



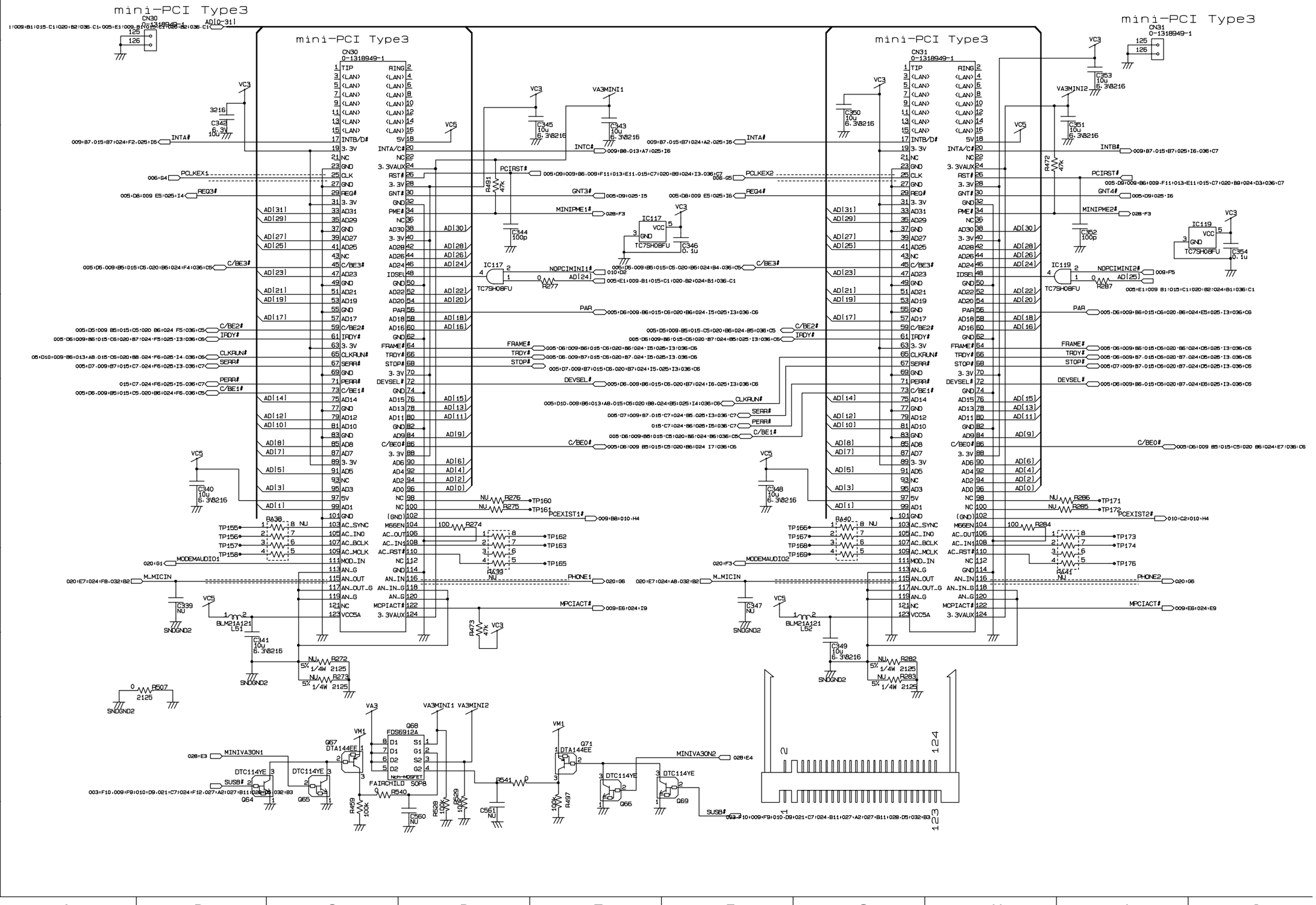
GAIN0	GAIN1	
-2V/V	0	0
-6V/V	0	1
-12V/V	1	0
-24V/V	1	1


Port Reprecator I/F-1
CN20
FH12-40S-0.5SV
HIROSE
PR_DCD1#
PR_SIN1
PR_SOUT1
PR_DTR1#
PR_DSR1#
PR_RTS1#
PR_CTS1#
PR_RI1#
PRSTRB#
PRAUTO#
SLCTIN#
PRPE
PINIT#
PRBUSY
PRACK#
ERROR#
PRSLCT
FDPWRON
TP220
TP230
TP222
TP223
PR_DSR2#
PR_RTS2#
PR_CTS2#
PR_RI2#
PRPD7
PRPD6
PRPD5
PRPD4
PRPD3
PRPD2
PRPD1
PRPD0
FDPWR
IC108
IC109
TC7ST08FU
C497 0.1u
C498 0.1u
HSYNC
VSYNC
Port Reprecatpor I/F-2
CN10
FH12-40S-0.5SV
CRTR
CRTG
CRTB
L48
L49
L50
R164 75 2125
R166 75 2125
R167 75 2125
SHUT_COMB
MSDATA
MSCLK
EX_USB-
EX_USB+
PRMIC
SP-ON
PRIN#
POWERSW#
SNDGND1
DDC2BC
DDC2BD
KBDATA
KBCLK
USBOC0#
HPOPRL
HPOPRR
RI232C#
R509 10k
C534 1u
DC15
C338 0.1u
R267 5.6K
LAN/S2#
NU
R585
R510 0
IC139
TC7S14FU
S2#/LAN
C536 0.1u
IC107
TC7SH08FU
C333 0.1u
Q24
IRF7416
Pch-MOSFET
SOP8(1.75mH)
C334 NU
ERY325A120VA
1.2A
MACO
PS1
C337 0.1u
R265 47K
PNF
DTC114EE
Q25
C335 0.01u
C336 1u
LAN I/F
LAN I/F CN1
CN56
SM09B-SRSS-TB
JST
CHSGND
RD+
RD-
TD+
TD-
INT_RD+
INT_RD-
INT_TD+
INT_TD-
IC137
PI5L200QX
QSOP16(1.8mH)
PERICOM
C535 0.1u
R518 0 1608
R519 0 1608
LAN I/F CN2
CN57
SM05B-SRSS-TB
PR-DCD2#/RD+
PR-SIN2/RD-
PR-SOUT2/TD+
PR-DTR2#/TD-
IC138
PI5L200QX
PR_DCD2#
PR_SIN2
PR_SOUT2
PR_DTR2#
C533 0.1u
R520 0 1608
R521 0 1608

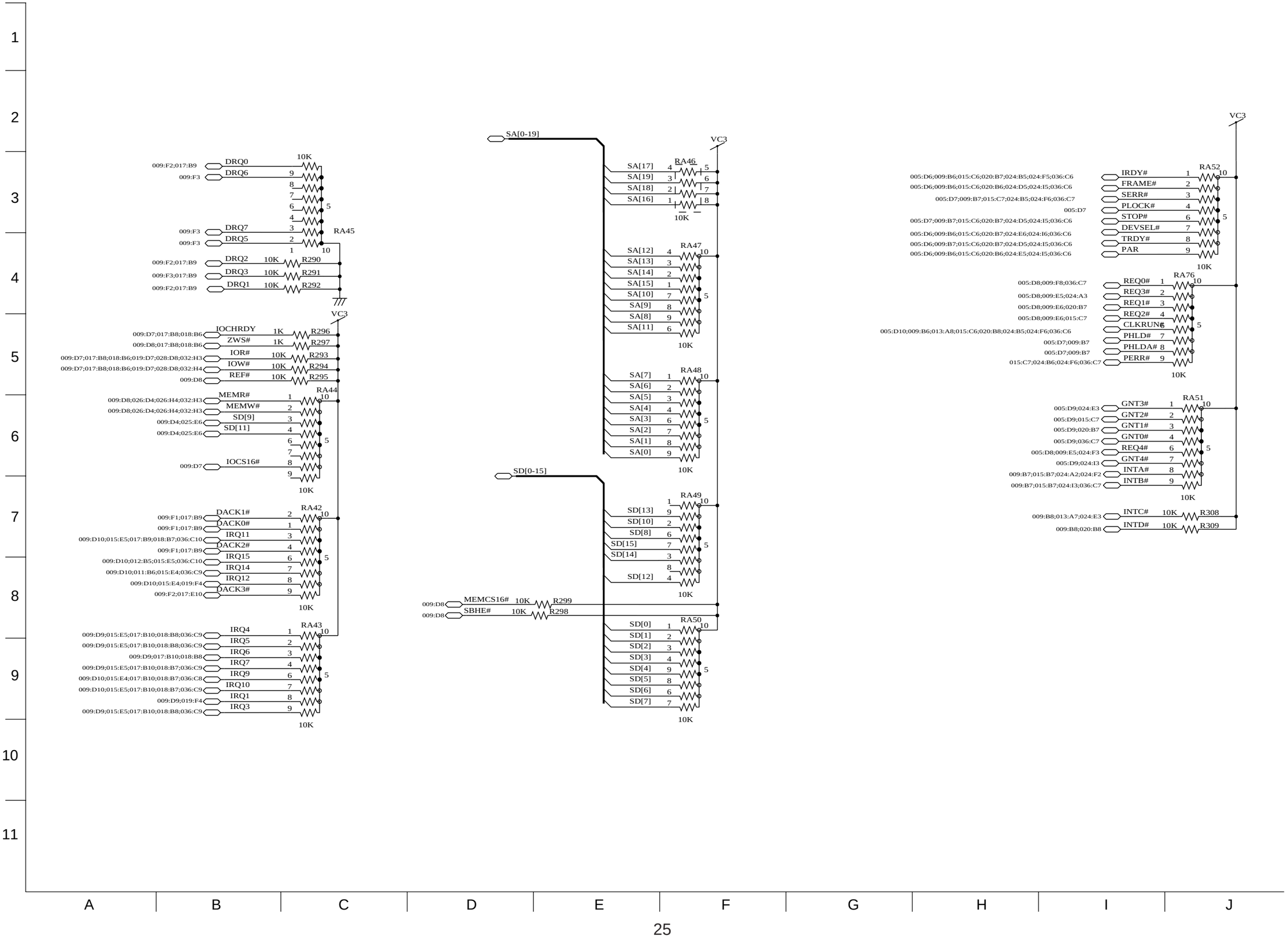
Main 23 LED


VC3
019:F3
CAPLED#
DTA114EE
Q26
NUMLED#
Q27
019:F2
SCRLED#
Q28
PADLED#
Q29
RA36
220
SEC1703C
LED
LD1
CAPS LOCK
LD2
NUM LOCK
SCROLL LOCK
MP (FDD/CD-ROM/SUPER DISK)
HDD
KEY PAD
011:F10
HDLED
510
R124
012:D5;017:D9
DS#
Q34
220
R268
012:A7
CDLED
510
R269
VA3
028:E3
BATLED#
Q30
220
R524
CHGLED#
Q31
R525
R526
R527
STBLED#
Q32
028:E2
PWRLED#
Q33
LN2162C-TR
LD7
LD8
(RED)
BATTERY
(GREEN)
POWER
LEDzz
LD1
LD2
LD3
LD4
LD5
LD6
LD7
LD8

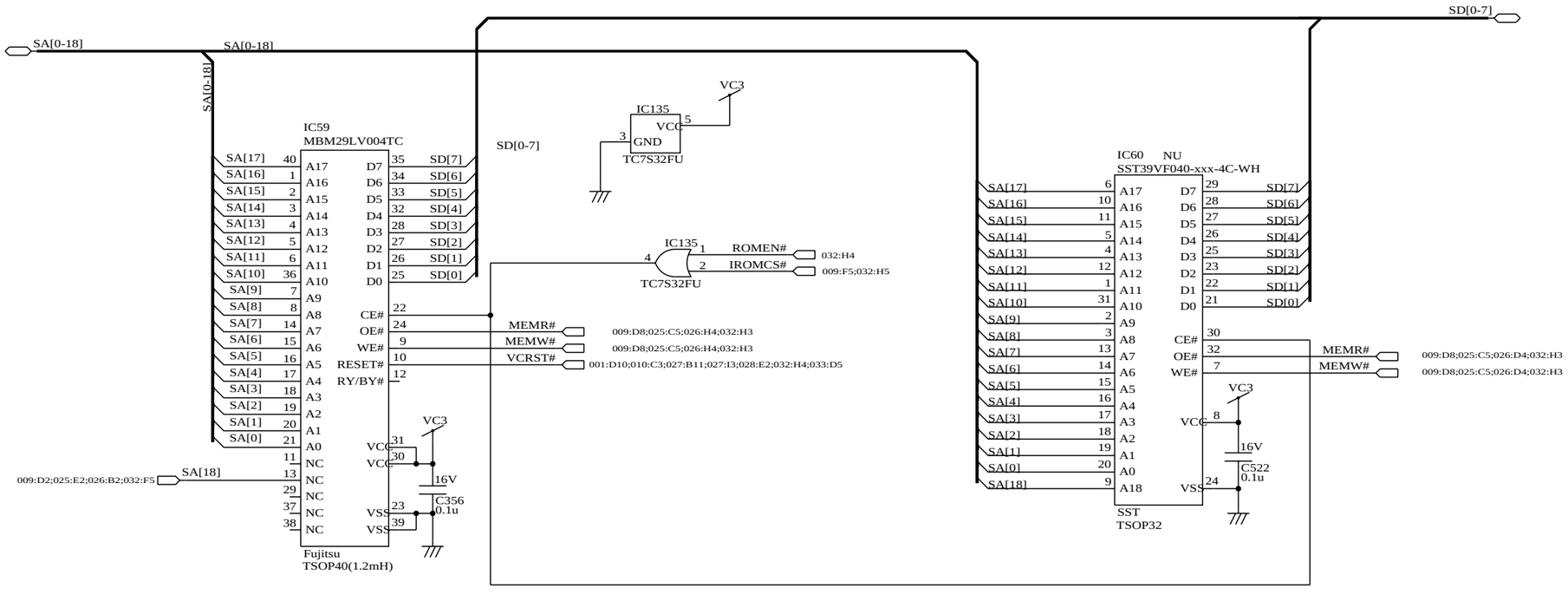
Main 24 Mini PCI



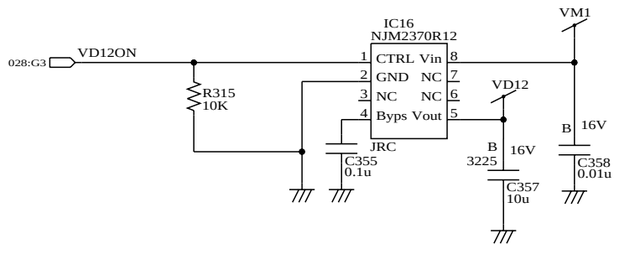
Main 25 Resistors



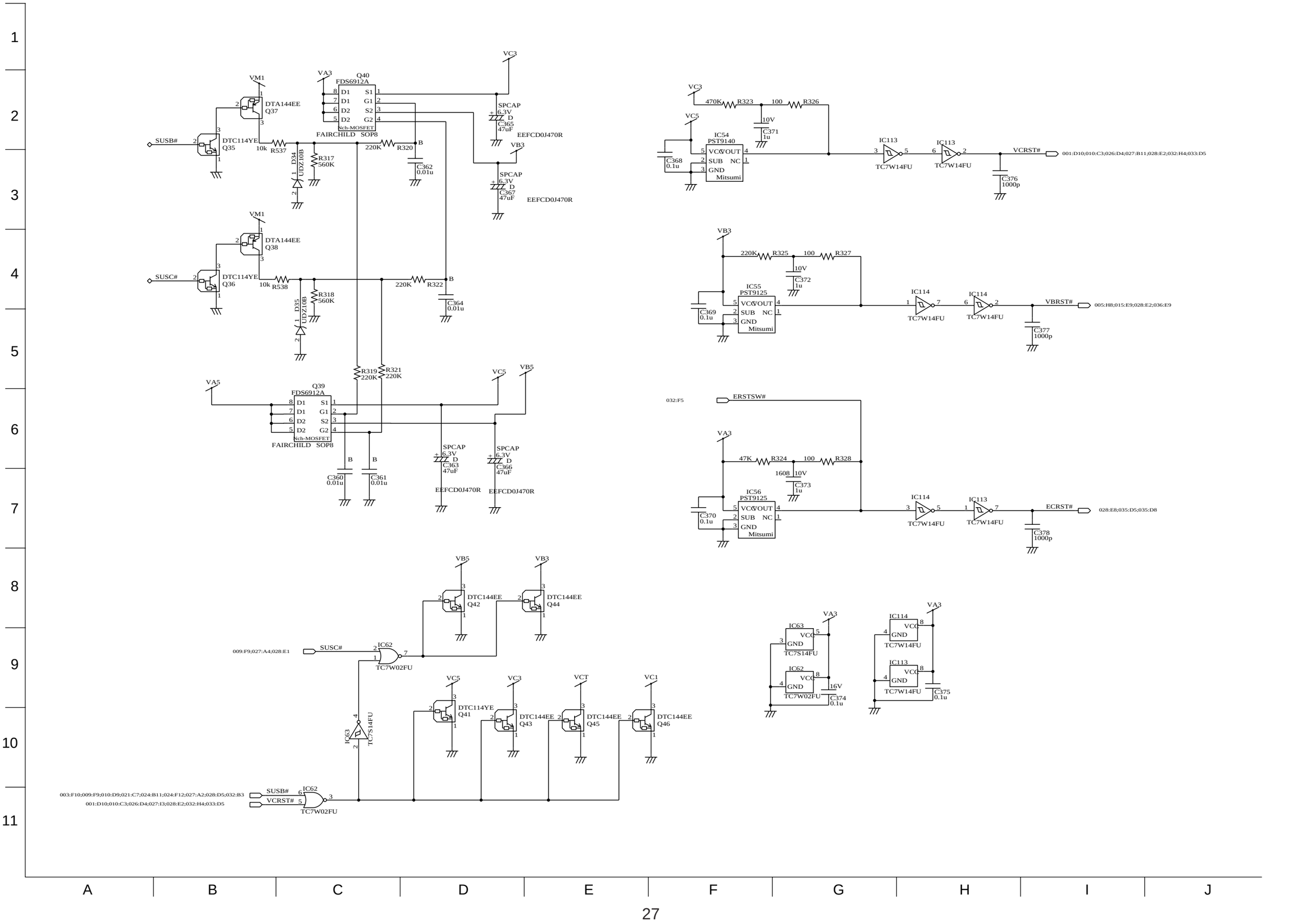
BIOS


SA[0-18]
SA[0-18]
SA[0-18]
SD[0-7]
SD[0-7]
IC59
MBM29LV004TC
SA[17] 40
SA[16] 1
SA[15] 2
SA[14] 3
SA[13] 4
SA[12] 5
SA[11] 6
SA[10] 36
SA[9] 7
SA[8] 8
SA[7] 14
SA[6] 15
SA[5] 16
SA[4] 17
SA[3] 18
SA[2] 19
SA[1] 20
SA[0] 21
A17 A16 A15 A14 A13 A12 A11 A10 A9 A8 A7 A6 A5 A4 A3 A2 A1 A0
D7 35 SD[7]
D6 34 SD[6]
D5 33 SD[5]
D4 32 SD[4]
D3 28 SD[3]
D2 27 SD[2]
D1 26 SD[1]
D0 25 SD[0]
CE# 22
OE# 24 MEMR#
WE# 9 MEMW#
RESET# 10 VCRST#
RY/BY# 12
NC 11
NC 13 SA[18]
NC 29
NC 37
NC 38
VCC 31
VCC 30
VSS 23
VSS 39
009:D2;025:E2;026:B2;032:F5
VC3
16V
C356
0.1u
Fujitsu
TSOP40(1.2mH)
IC135
VCC 5
GND 3
TC7S32FU
VC3
IC135
4
1 ROMEN# 032:H4
2 IROMCS# 009:F5;032:H5
TC7S32FU
009:D8;025:C5;026:H4;032:H3
009:D8;025:C5;026:H4;032:H3
001:D10;010:C3;027:B11;027:I3;028:E2;032:H4;033:D5
IC60 NU
SST39VF040-xxx-4C-WH
SA[17] 6
SA[16] 10
SA[15] 11
SA[14] 5
SA[13] 4
SA[12] 12
SA[11] 1
SA[10] 31
SA[9] 2
SA[8] 3
SA[7] 13
SA[6] 14
SA[5] 15
SA[4] 16
SA[3] 17
SA[2] 18
SA[1] 19
SA[0] 20
SA[18] 9
A17 A16 A15 A14 A13 A12 A11 A10 A9 A8 A7 A6 A5 A4 A3 A2 A1 A0 A18
D7 29 SD[7]
D6 28 SD[6]
D5 27 SD[5]
D4 26 SD[4]
D3 25 SD[3]
D2 23 SD[2]
D1 22 SD[1]
D0 21 SD[0]
CE# 30
OE# 32 MEMR#
WE# 7 MEMW#
VCC 8
VSS 24
009:D8;025:C5;026:D4;032:H3
009:D8;025:C5;026:D4;032:H3
VC3
16V
C522
0.1u
SST
TSOP32

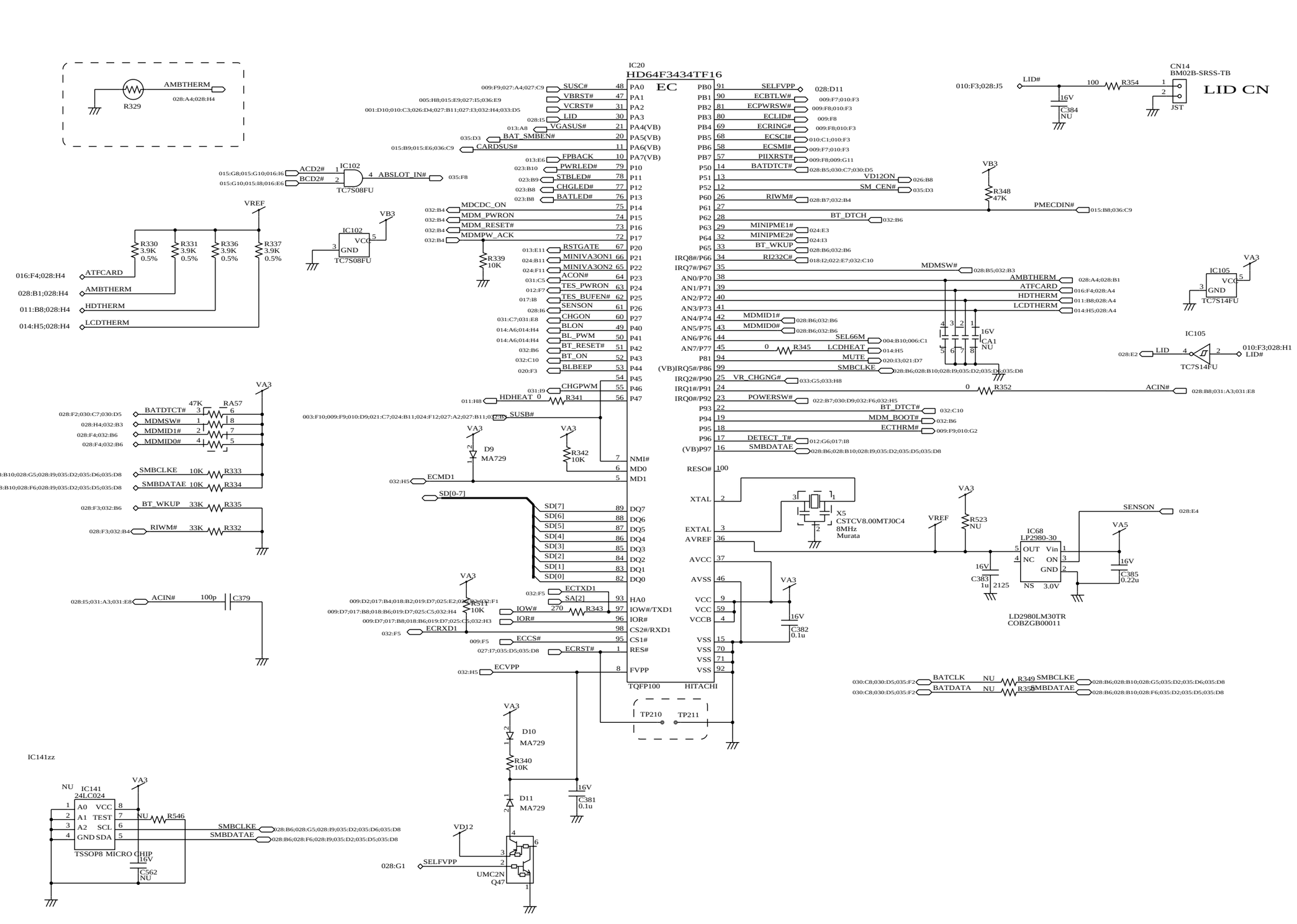
12V

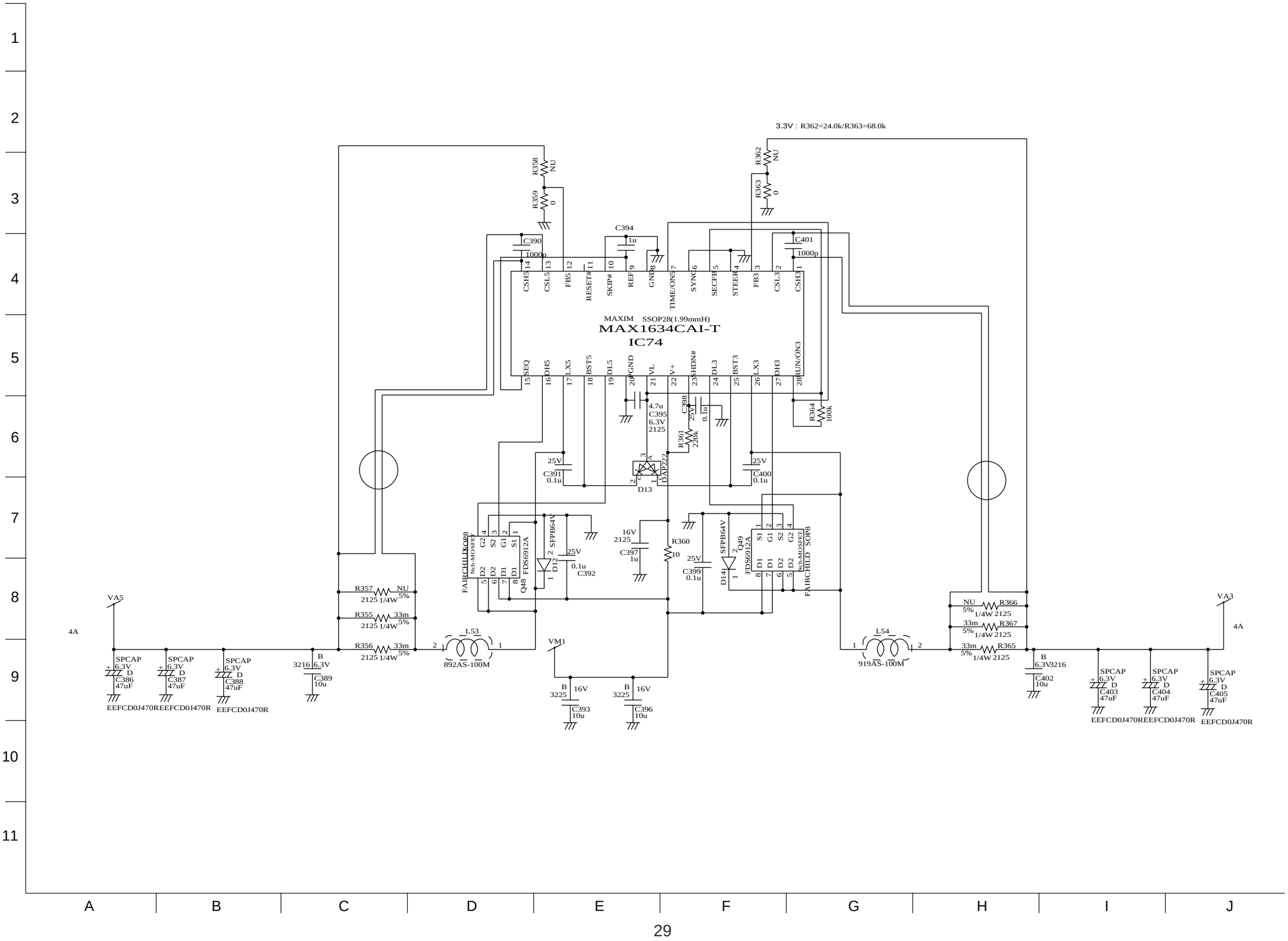

028:G3
VD12ON
R315
10K
IC16
NJM2370R12
1 CTRL Vin 8
2 GND NC 7
3 NC NC 6
4 Byps Vout 5
JRC
C355
0.1u
VM1
VD12
B 16V
3225
C357
10u
B 16V
C358
0.01u

Main 27 VC3,VB3,VC5,VB5,Reset



Main 28 EC,LID




3.3V : R362=24.0k/R363=68.0k
R358 NU
R359 0
R362 NU
R363 0
C394 1u
C390 1000p
C401 1000p
CSH5 CSL5 FB5 RESET# SKIP# REF GND TIME/ON/S SYNC SECFB STEER FB3 CSL3 CSH3
MAXIM SSOP28(1.99mmH)
MAX1634CAI-T
IC74
SEQ DH5 LX5 BST5 DL5 PGND VL V+ SHDN# DL3 BST3 LX3 DH3 RUN/ON3
4.7u C395 6.3V 2125
C398 25V 0.1u
R364 100k
R361 220k
25V C391 0.1u
DAP222 D13
25V C400 0.1u
FAIRCHILD SOP8 Nch-MOSFET Q48 FDS6912A
SFPB64V D12
25V 0.1u C392
16V 2125 C397 1u
R360 10
25V C399 0.1u
SFPB64V D14
FDS6912A Q49
FAIRCHILD SOP8 Nch-MOSFET
R357 NU 2125 1/4W 5%
R355 33m 2125 1/4W 5%
R356 33m 2125 1/4W 5%
L53 892AS-100M
L54 919AS-100M
R366 NU 5% 1/4W 2125
R367 33m 5% 1/4W 2125
R365 33m 5% 1/4W 2125
VA5
4A
SPCAP 6.3V D C386 47uF
SPCAP 6.3V D C387 47uF
SPCAP 6.3V D C388 47uF
EEFCD0J470R EEFCD0J470R EEFCD0J470R
B 3216 6.3V C389 10u
VM1
B 3225 16V C393 10u
B 3225 16V C396 10u
B 3216 6.3V C402 10u
SPCAP 6.3V D C403 47uF
SPCAP 6.3V D C404 47uF
SPCAP 6.3V D C405 47uF
EEFCD0J470R EEFCD0J470R EEFCD0J470R
VA3
4A

Main Battery Conn.

CN17
AXK630235

CHARGE

Q50
SI4435DY
Pch-MOSFET
TEMIC SOP8

ACVOK → 031:D5

VMBATT

Q53
SI4435DY
Pch-MOSFET
SOP8 TEMIC

VM1

25V C410 0.1u

R379 2.2K 2125
R380 2.2K 2125
R381 470K
R382 10K

0 R368
100 R371
100 R369
100 R370

BATDTCT# → 028:B5;028:F2;030:C7
BATDATA → 028:H9;030:C8;035:F2
BATCLK → 028:H9;030:C8;035:F2

Matsuhshita

VA3

D15 DA204U
D16 DA204U
D17 DA204U

VC5SA
VA5
VA3
VC1

D19 UDZ6.2B
D20 UDZ6.2B
D21 UDZ6.2B
D22 UDZ6.2B

R374 100 1608
R375 100 1608
R376 100 1608
R377 100 1608

2SK1582
Q52

O3P2J
D23

R373 100 1608

R378 22K
C409 0.1u

028:B5;028:F2;030:D5 → BATDTCT# C406 1000p
028:H9;030:D5;035:F2 → BATDATA C407 NU
028:H9;030:D5;035:F2 → BATCLK C408 NU

VM1

R584 4.7K

DTA114EE
Q51

VM1CUT# → 032:B4

VA3

R372 4.7K

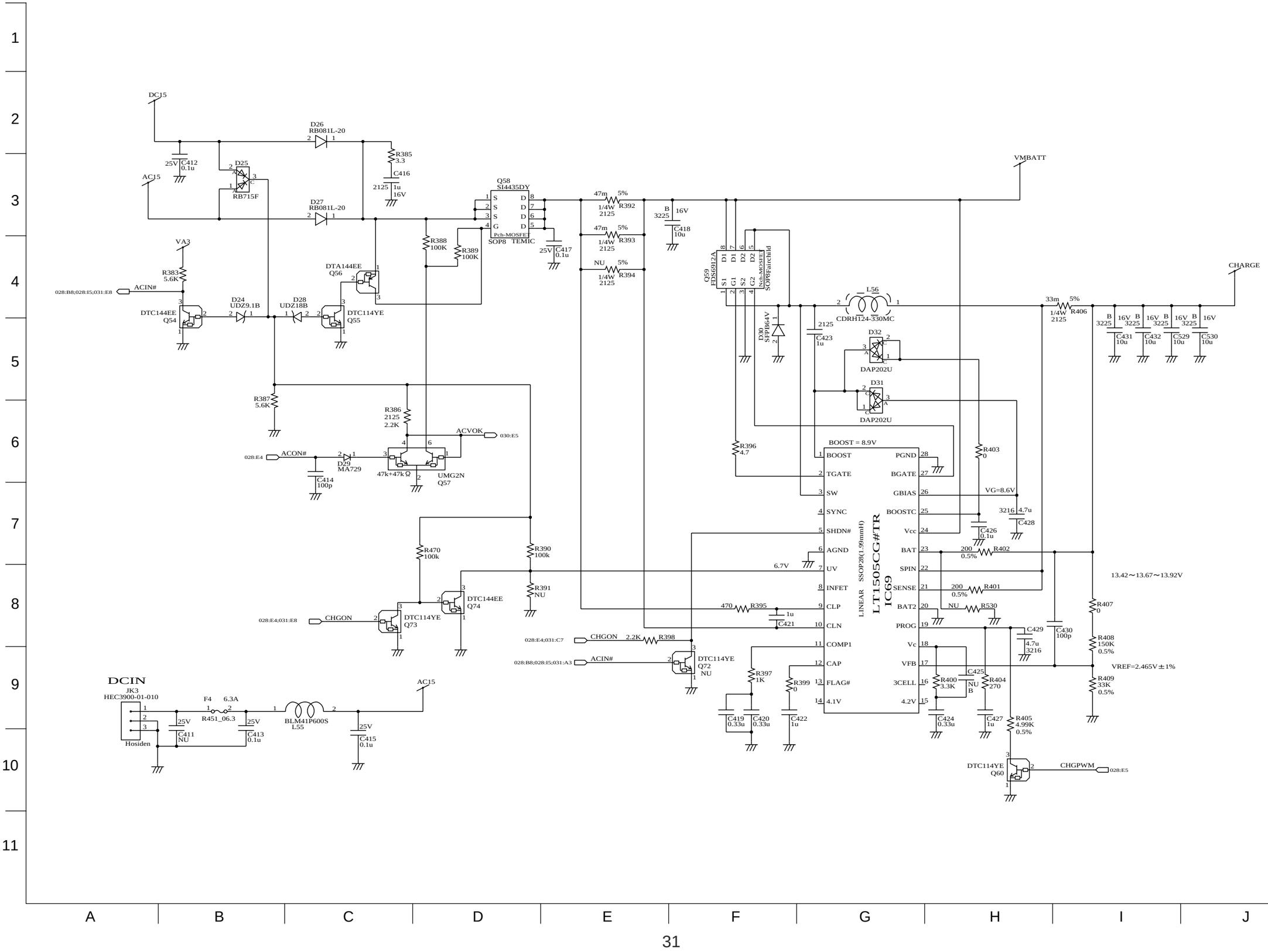
D18 NU DA204U

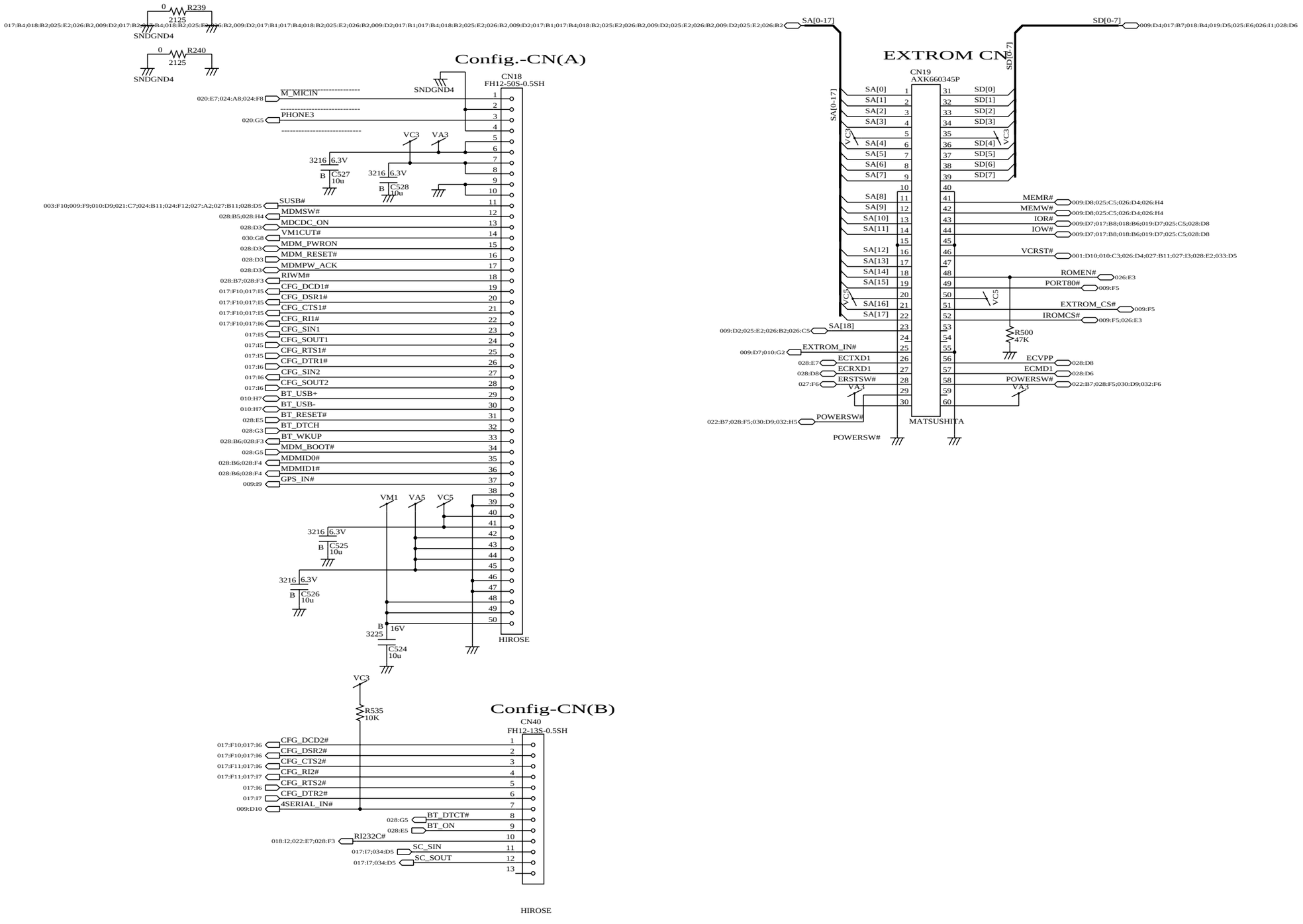
022:B7;028:F5;032:F6;032:H5 → POWERSW#

CN7
SM02B-SRSS-TB
JST

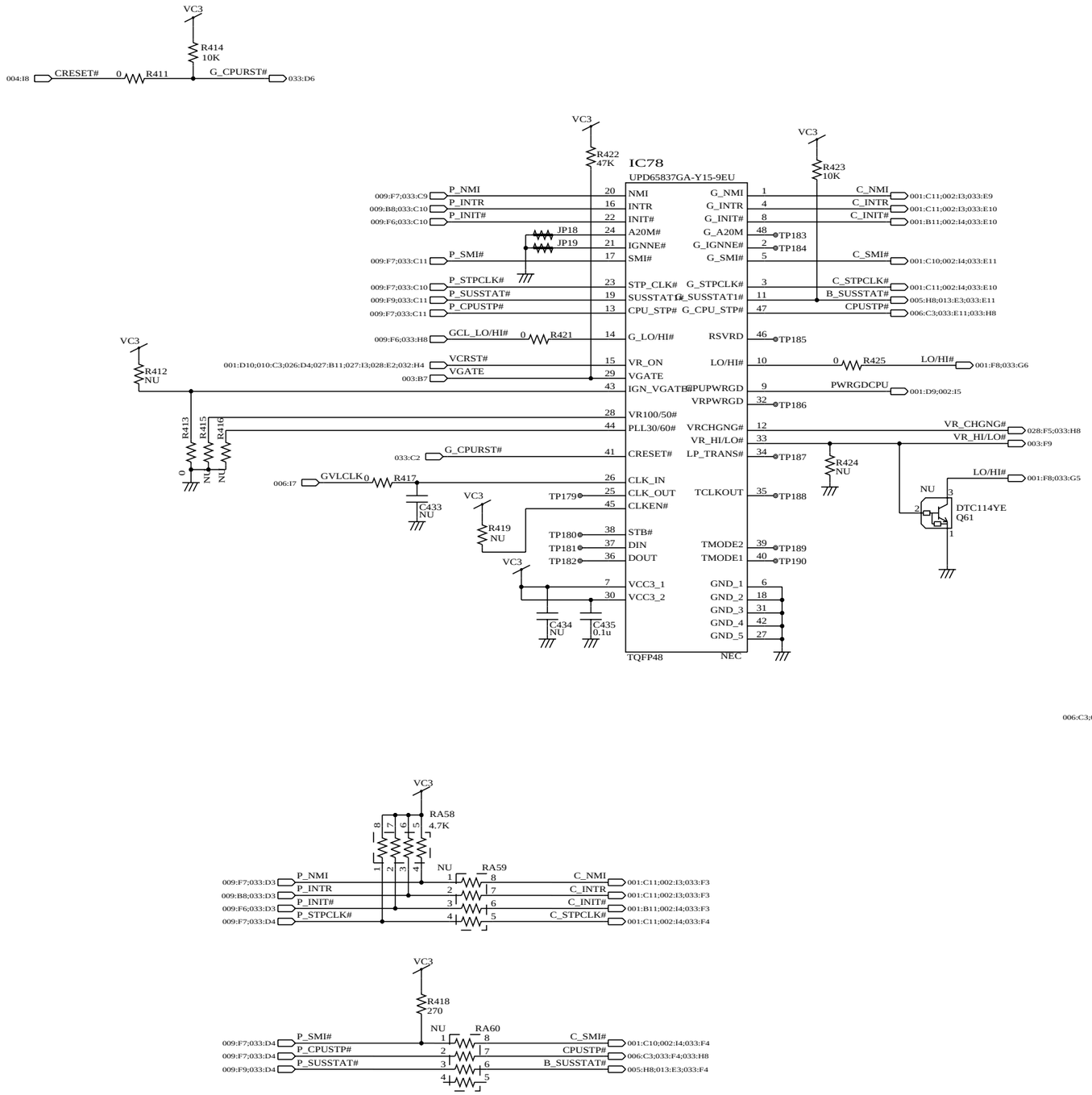
Power SW

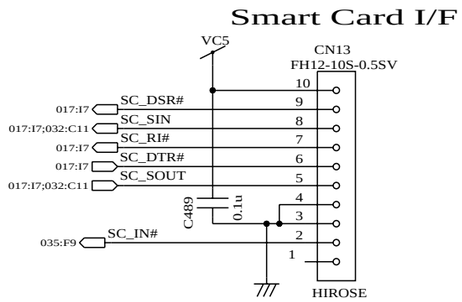
Main 31 Charger BAT CN



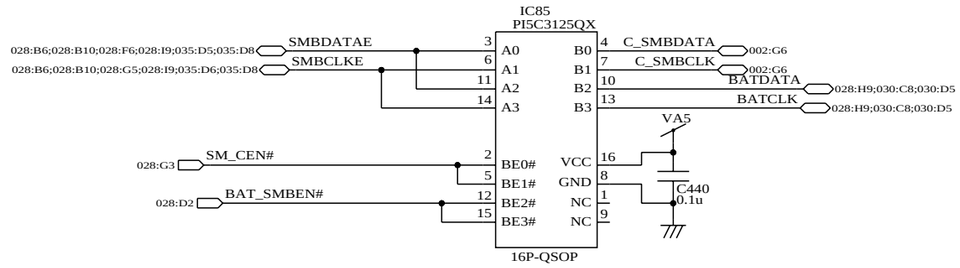

R239
0
2125
SNDGND4
R240
0
2125
SNDGND4
Config.-CN(A)
CN18
FH12-50S-0.5SH
SNDGND4
M_MICIN
PHONE3
VC3
VA3
3216 6.3V
B C527 10u
3216 6.3V
B C528 10u
SUSB#
MDMSW#
MDCDC_ON
VM1CUT#
MDM_PWRON
MDM_RESET#
MDMPW_ACK
RIWM#
CFG_DCD1#
CFG_DSR1#
CFG_CTS1#
CFG_RI1#
CFG_SIN1
CFG_SOUT1
CFG_RTS1#
CFG_DTR1#
CFG_SIN2
CFG_SOUT2
BT_USB+
BT_USB-
BT_RESET#
BT_DTCH
BT_WKUP
MDM_BOOT#
MDMID0#
MDMID1#
GPS_IN#
VM1
VA5
VC5
3216 6.3V
B C525 10u
3216 6.3V
B C526 10u
B 16V 3225
C524 10u
HIROSE
VC3
R535
10K
Config-CN(B)
CN40
FH12-13S-0.5SH
CFG_DCD2#
CFG_DSR2#
CFG_CTS2#
CFG_RI2#
CFG_RTS2#
CFG_DTR2#
4SERIAL_IN#
BT_DTCT#
BT_ON
RI232C#
SC_SIN
SC_SOUT
HIROSE
SA[0-17]
SD[0-7]
EXTROM CN
CN19
AXK660345P
SA[0]
SA[1]
SA[2]
SA[3]
SA[4]
SA[5]
SA[6]
SA[7]
SA[8]
SA[9]
SA[10]
SA[11]
SA[12]
SA[13]
SA[14]
SA[15]
SA[16]
SA[17]
SA[18]
SD[0]
SD[1]
SD[2]
SD[3]
SD[4]
SD[5]
SD[6]
SD[7]
MEMR#
MEMW#
IOR#
IOW#
VCRST#
ROMEN#
PORT80#
EXTROM_CS#
IROMCS#
R500
47K
EXTROM_IN#
ECTXD1
ECRXD1
ERSTSW#
ECVPP
ECMD1
POWERSW#
MATSUSHITA
POWERSW#
VC3
VC5
VA3

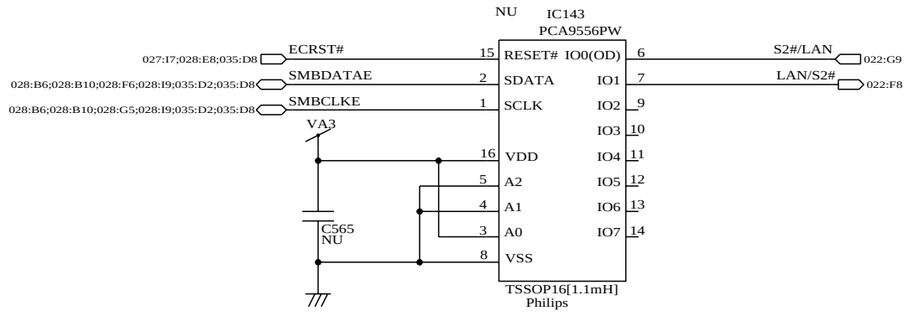
Main 33 GCL

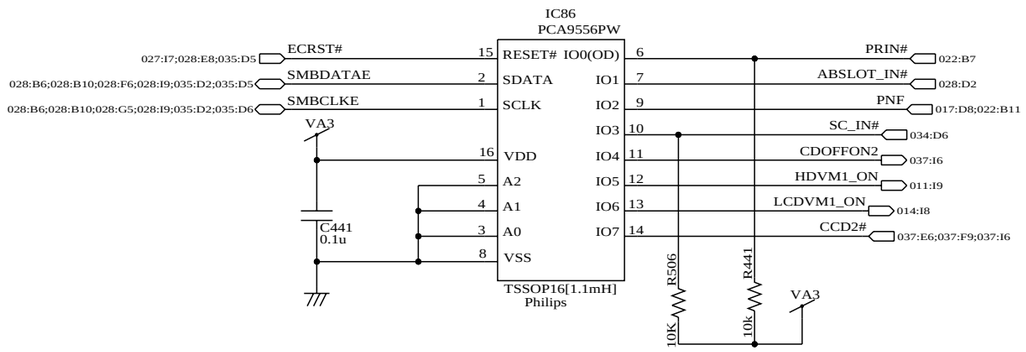

VC3
R414
10K
004:I8
CRESET#
0
R411
G_CPURST#
033:D6
IC78
UPD65837GA-Y15-9EU
R422
47K
R423
10K
009:F7;033:C9
P_NMI
009:B8;033:C10
P_INTR
009:F6;033:C10
P_INIT#
JP18
JP19
009:F7;033:C11
P_SMI#
009:F7;033:C10
P_STPCLK#
009:F9;033:C11
P_SUSSTAT#
009:F7;033:C11
P_CPUSTP#
009:F6;033:H8
GCL_LO/HI#
R421
001:D10;010:C3;026:D4;027:B11;027:I3;028:E2;032:H4
VCRST#
003:B7
VGATE
R412
NU
R413
R415
R416
033:C2
G_CPURST#
006:I7
GVLCLK
R417
C433
NU
TP179
TP180
TP181
TP182
R419
NU
C434
NU
C435
0.1u
NMI
INTR
INIT#
A20M#
IGNNE#
SMI#
STP_CLK#
SUSSTAT0
CPU_STP#
G_LO/HI#
VR_ON
VGATE
IGN_VGATE
VR100/50#
PLL30/60#
CRESET#
CLK_IN
CLK_OUT
CLKEN#
STB#
DIN
DOUT
VCC3_1
VCC3_2
G_NMI
G_INTR
G_INIT#
G_A20M
G_IGNNE#
G_SMI#
G_STPCLK#
G_SUSSTAT1
G_CPU_STP#
RSVRD
LO/HI#
GPUPWRGD
VRPWRGD
VRCHGNG#
VR_HI/LO#
LP_TRANS#
TCLKOUT
TMODE2
TMODE1
GND_1
GND_2
GND_3
GND_4
GND_5
TQFP48
NEC
TP183
TP184
TP185
TP186
TP187
TP188
TP189
TP190
C_NMI
C_INTR
C_INIT#
C_SMI#
C_STPCLK#
B_SUSSTAT#
CPUSTP#
001:C11;002:I3;033:E9
001:C11;002:I3;033:E10
001:B11;002:I4;033:E10
001:C10;002:I4;033:E11
001:C11;002:I4;033:E10
005:H8;013:E3;033:E11
006:C3;033:E11;033:H8
R425
LO/HI#
001:F8;033:G6
PWRGDCPU
001:D9;002:I5
VR_CHGNG#
028:F5;033:H8
VR_HI/LO#
003:F9
R424
NU
LO/HI#
001:F8;033:G5
NU
DTC114YE
Q61
009:F6;033:D4
GCL_LO/HI#
4.7K
R426
006:C3;033:E11;033:F4
CPUSTP#
R427
028:F5;033:G5
VR_CHGNG#
R428
RA58
4.7K
NU
RA59
009:F7;033:D3
P_NMI
009:B8;033:D3
P_INTR
009:F6;033:D3
P_INIT#
009:F7;033:D4
P_STPCLK#
C_NMI
C_INTR
C_INIT#
C_STPCLK#
001:C11;002:I3;033:F3
001:C11;002:I3;033:F3
001:B11;002:I4;033:F3
001:C11;002:I4;033:F4
R418
270
RA60
009:F7;033:D4
P_SMI#
009:F7;033:D4
P_CPUSTP#
009:F9;033:D4
P_SUSSTAT#
C_SMI#
CPUSTP#
B_SUSSTAT#
001:C10;002:I4;033:F4
006:C3;033:F4;033:H8
005:H8;013:E3;033:F4

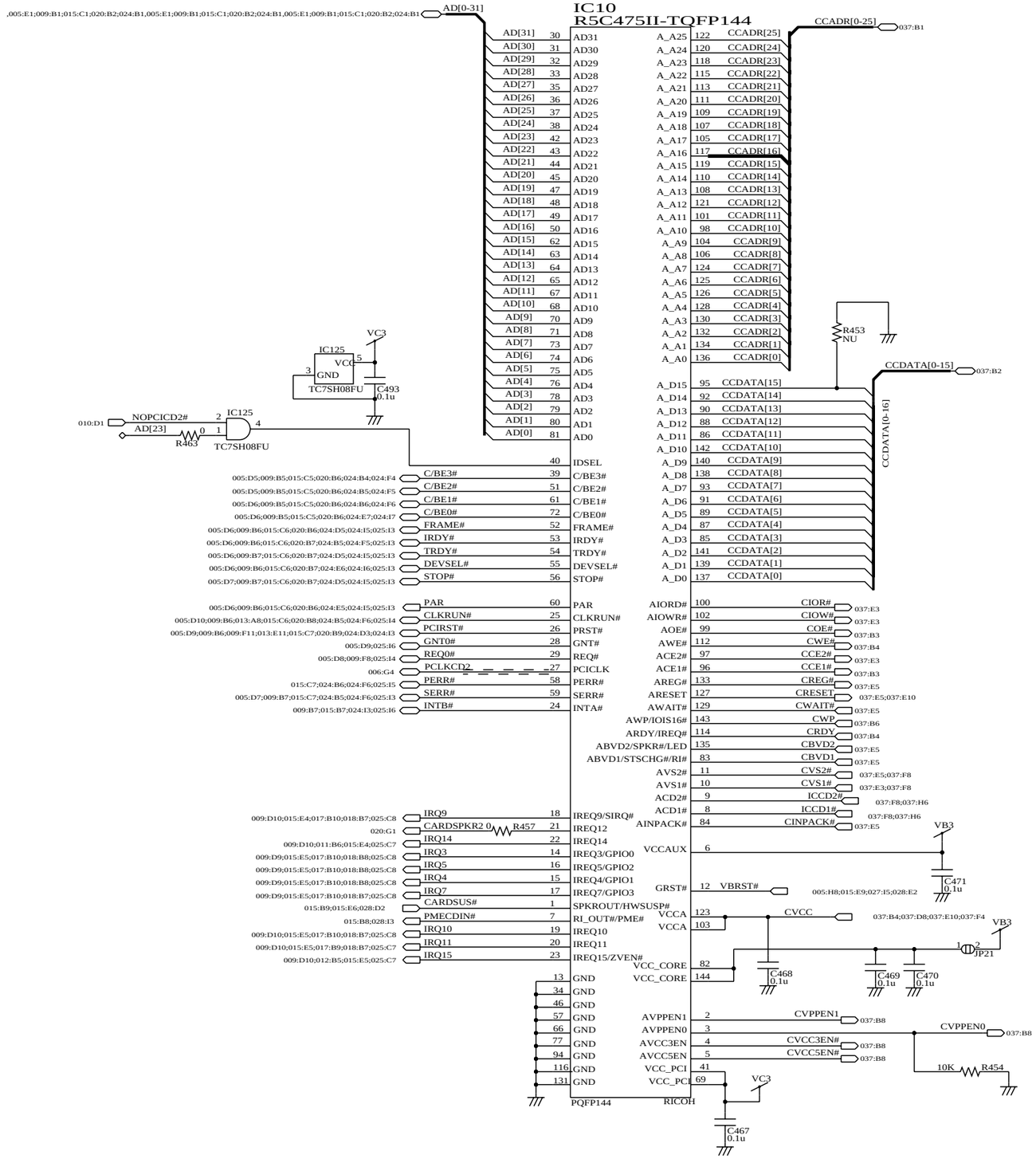

Smart Card I/F
VC5
CN13
FH12-10S-0.5SV
10
9
8
7
6
5
4
3
2
1
017:I7
SC_DSR#
017:I7;032:C11
SC_SIN
017:I7
SC_RI#
017:I7
SC_DTR#
017:I7
SC_SOUT
017:I7;032:C11
C489
0.1u
035:F9
SC_IN#
HIROSE

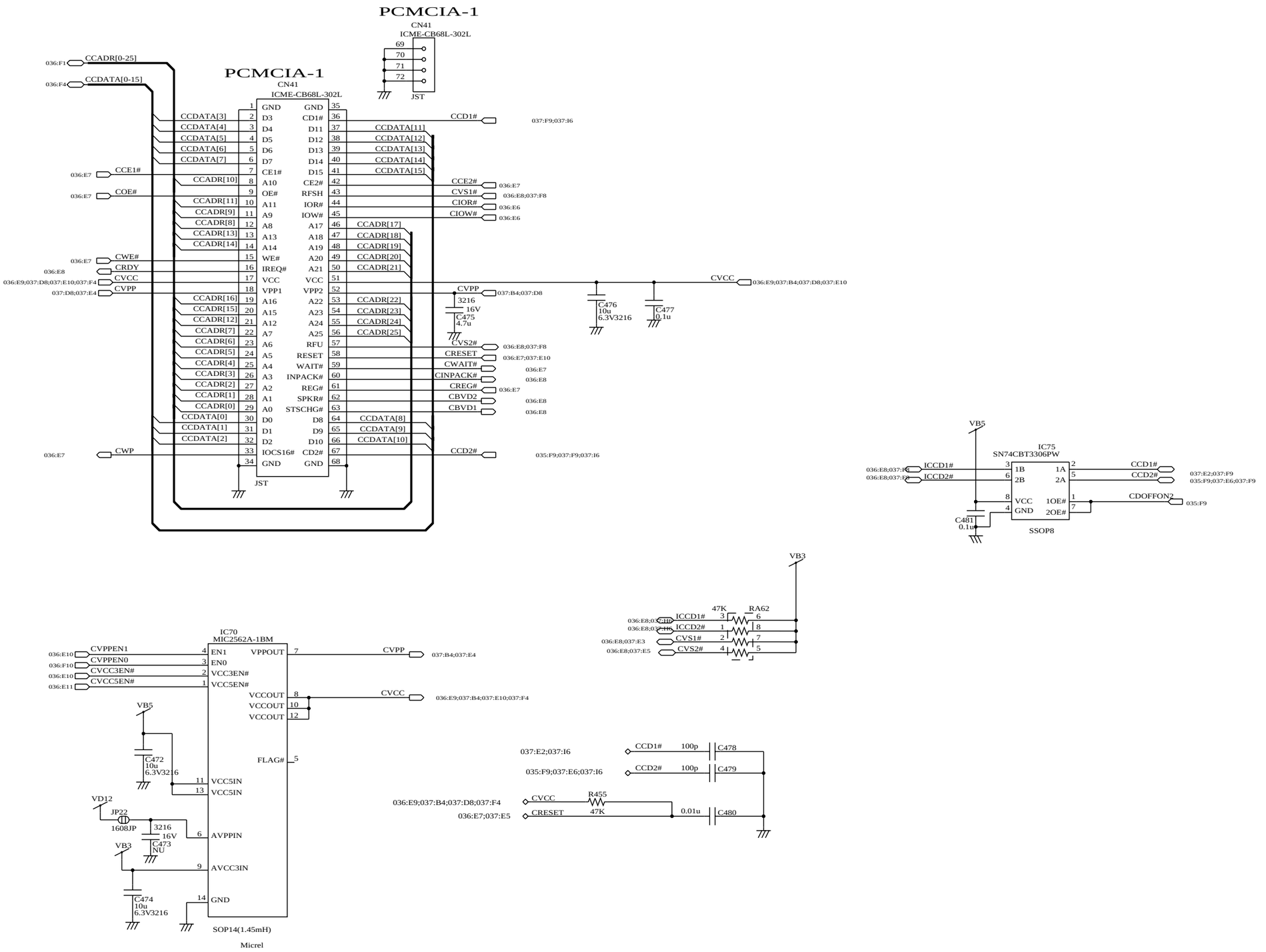
Main 35 I/O Expander

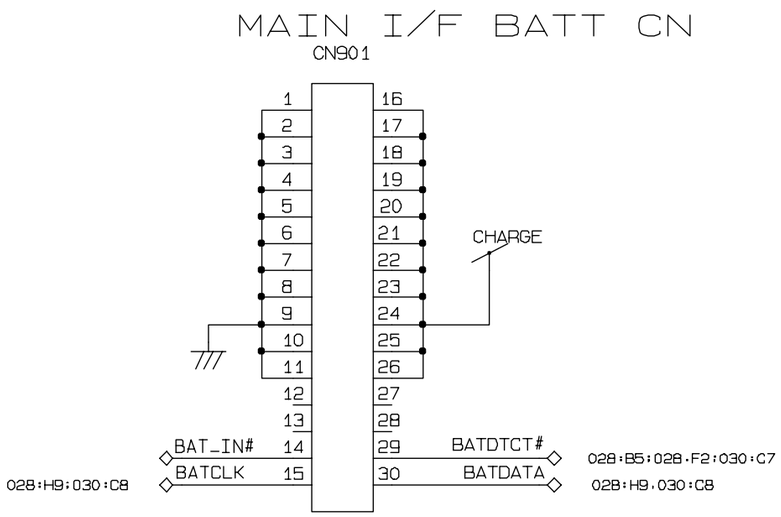


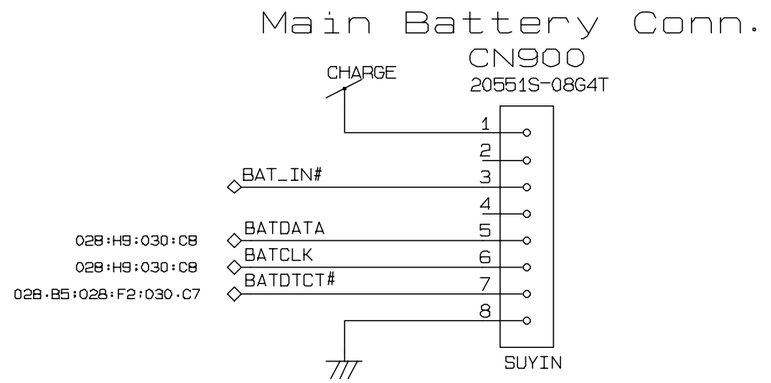


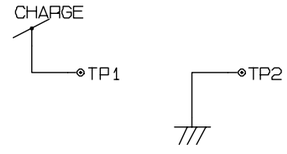


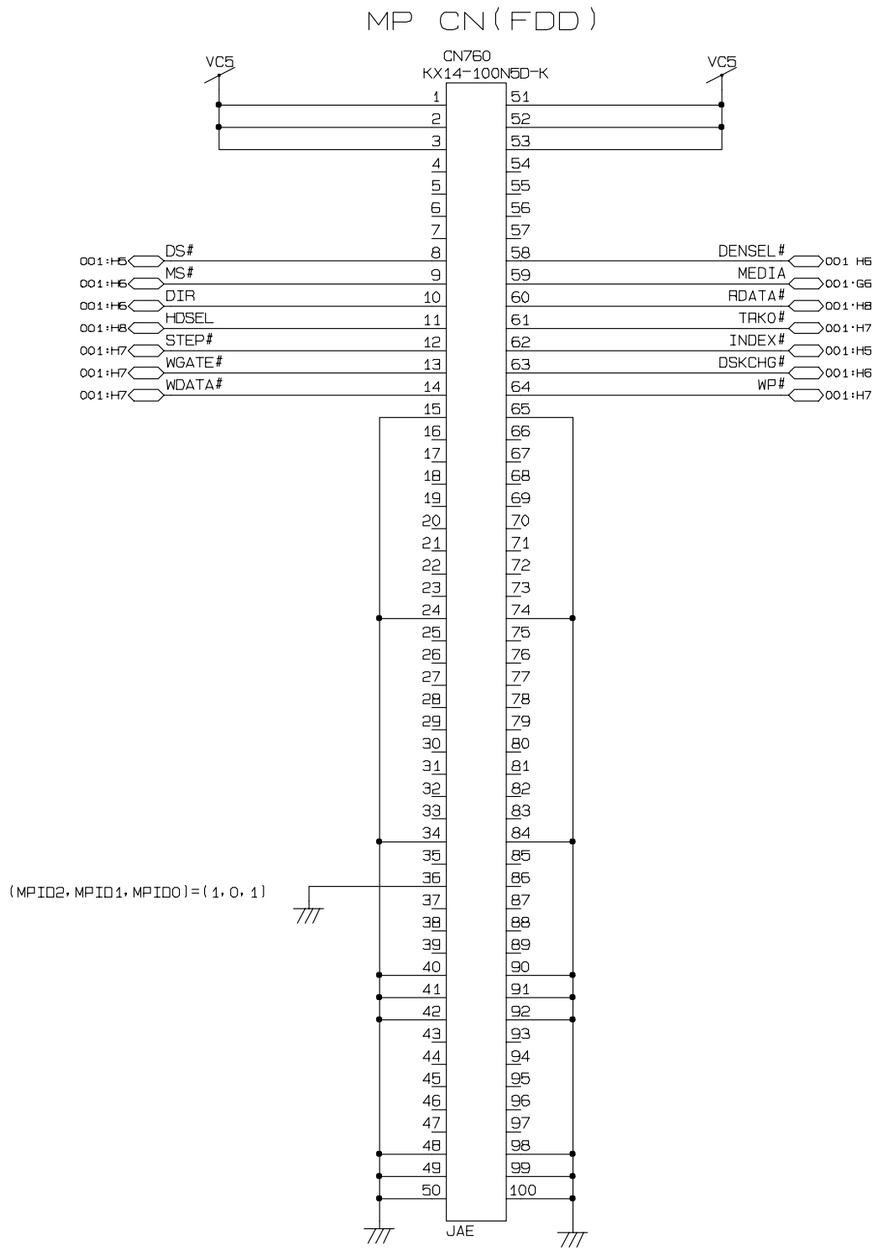

IC10
R5C475II-TQFP144
AD[0-31]
CCADR[0-25]
037:B1
CCDATA[0-15]
037:B2
CCDATA[0-16]
IC125
TC7SH08FU
VC3
C493
0.1u
NOPCICD2#
AD[23]
R463
R453
NU
C471
C468
C469
C470
C467
JP21
VB3
CVCC
CVPPEN1
CVPPEN0
10K
R454
CARDSPKR2 0
R457
VBRST#
CINPACK#
CICD1#
CICD2#
CVS1#
CVS2#
CBVD1
CBVD2
CRDY
CWP
CRESET
CWAIT#
CIOR#
CIOW#
COE#
CWE#
CCE2#
CCE1#
CREG#
PQFP144
RICOH

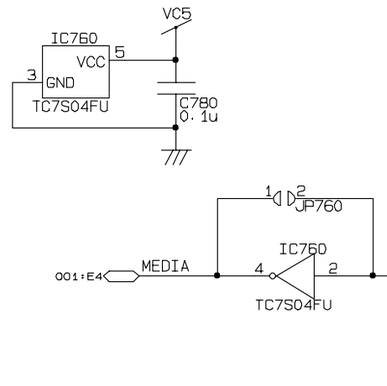

PCMCIA-1
CN41
ICME-CB68L-302L
69
70
71
72
JST
PCMCIA-1
CN41
ICME-CB68L-302L
036:F1 CCADR[0-25]
036:F4 CCDATA[0-15]
1 GND GND 35
2 D3 CD1# 36 CCD1# 037:F9;037:I6
3 D4 D11 37 CCDATA[11]
4 D5 D12 38 CCDATA[12]
5 D6 D13 39 CCDATA[13]
6 D7 D14 40 CCDATA[14]
7 CE1# D15 41 CCDATA[15]
036:E7 CCE1# 8 A10 CE2# 42 CCE2# 036:E7
9 OE# RFSH 43 CVS1# 036:E8;037:F8
036:E7 COE# 10 A11 IOR# 44 CIOR# 036:E6
11 A9 IOW# 45 CIOW# 036:E6
12 A8 A17 46 CCADR[17]
13 A13 A18 47 CCADR[18]
14 A14 A19 48 CCADR[19]
036:E7 CWE# 15 WE# A20 49 CCADR[20]
036:E8 CRDY 16 IREQ# A21 50 CCADR[21]
036:E9;037:D8;037:E10;037:F4 CVCC 17 VCC VCC 51 CVCC 036:E9;037:B4;037:D8;037:E10
037:D8;037:E4 CVPP 18 VPP1 VPP2 52 CVPP 037:B4;037:D8
19 A16 A22 53 CCADR[22]
20 A15 A23 54 CCADR[23]
21 A12 A24 55 CCADR[24]
22 A7 A25 56 CCADR[25]
23 A6 RFU 57 CVS2# 036:E8;037:F8
24 A5 RESET 58 CRESET 036:E7;037:E10
25 A4 WAIT# 59 CWAIT# 036:E7
26 A3 INPACK# 60 CINPACK# 036:E8
27 A2 REG# 61 CREG# 036:E7
28 A1 SPKR# 62 CBVD2 036:E8
29 A0 STSCHG# 63 CBVD1 036:E8
30 D0 D8 64 CCDATA[8]
31 D1 D9 65 CCDATA[9]
32 D2 D10 66 CCDATA[10]
036:E7 CWP 33 IOCS16# CD2# 67 CCD2# 035:F9;037:F9;037:I6
34 GND GND 68
JST
3216
16V
C475
4.7u
C476
10u
6.3V3216
C477
0.1u
VB5
IC75
SN74CBT3306PW
036:E8;037:I6 ICCD1# 3 1B 1A 2 CCD1# 037:E2;037:F9
036:E8;037:I6 ICCD2# 6 2B 2A 5 CCD2# 035:F9;037:E6;037:F9
8 VCC 1OE# 1 CDOFFON2 035:F9
4 GND 2OE# 7
C481
0.1u
SSOP8
IC70
MIC2562A-1BM
036:E10 CVPPEN1 4 EN1 VPPOUT 7 CVPP 037:B4;037:E4
036:F10 CVPPEN0 3 EN0
036:E10 CVCC3EN# 2 VCC3EN#
036:E11 CVCC5EN# 1 VCC5EN#
VCCOUT 8 CVCC 036:E9;037:B4;037:E10;037:F4
VCCOUT 10
VCCOUT 12
FLAG# 5
VB5
C472
10u
6.3V3216
11 VCC5IN
13 VCC5IN
VD12
JP22
1608JP
3216
16V
C473
NU
6 AVPPIN
VB3
9 AVCC3IN
C474
10u
6.3V3216
14 GND
SOP14(1.45mH)
Micrel
VB3
47K
RA62
036:E8;037:E2 ICCD1# 3 6
036:E8;037:H6 ICCD2# 1 8
036:E8;037:E3 CVS1# 2 7
036:E8;037:E5 CVS2# 4 5
037:E2;037:I6 CCD1# 100p C478
035:F9;037:E6;037:I6 CCD2# 100p C479
036:E9;037:B4;037:D8;037:F4 CVCC R455
036:E7;037:E5 CRESET 47K 0.01u C480


MAIN I/F BATT CN
CN901
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
CHARGE
BAT_IN#
BATCLK
BATDTCT#
BATDATA
028:H9:030:C8
028:B5:028:F2:030:C7
028:H9,030:C8

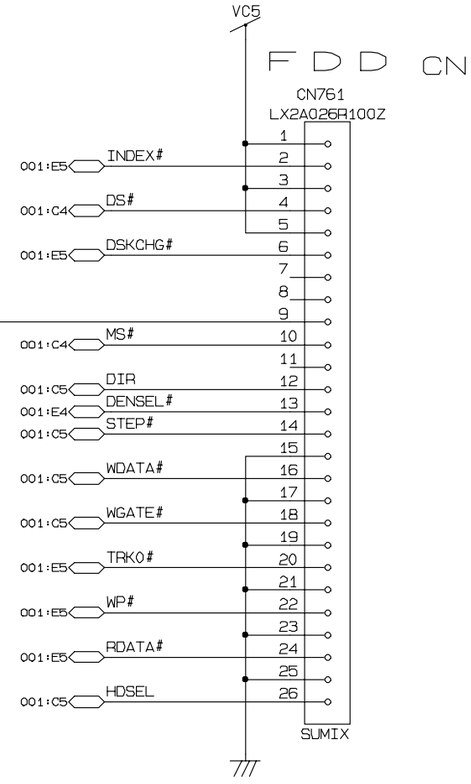

Main Battery Conn.
CN900
20551S-08G4T
CHARGE
BAT_IN#
BATDATA
BATCLK
BATDTCT#
028:H9:030:C8
028:H9:030:C8
028:B5:028:F2:030:C7
1
2
3
4
5
6
7
8
SUYIN


CHARGE
TP1
TP2

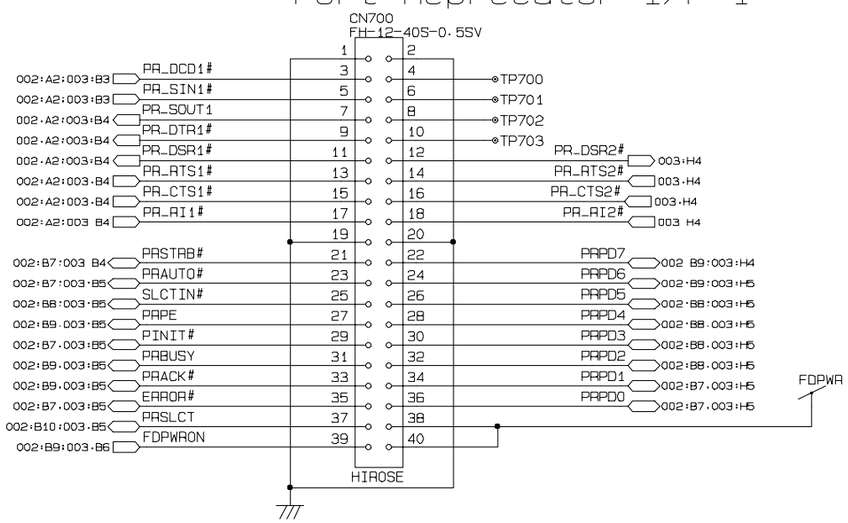

MP CN(FDD)
CN760
KX14-100N5D-K
VC5
VC5
001:H5 DS#
001:H6 MS#
001:H6 DIR
001:H6 HDSEL
001:H8 STEP#
001:H7 WGATE#
001:H7 WDATA#
DENSEL# 001 H6
MEDIA 001:G6
RDATA# 001:H8
TRK0# 001:H7
INDEX# 001:H5
DSKCHG# 001:H6
WP# 001:H7
(MPID2,MPID1,MPID0)=(1,0,1)
JAE


VC5
IC760
VCC
GND
TC7S04FU
C780
0.1u

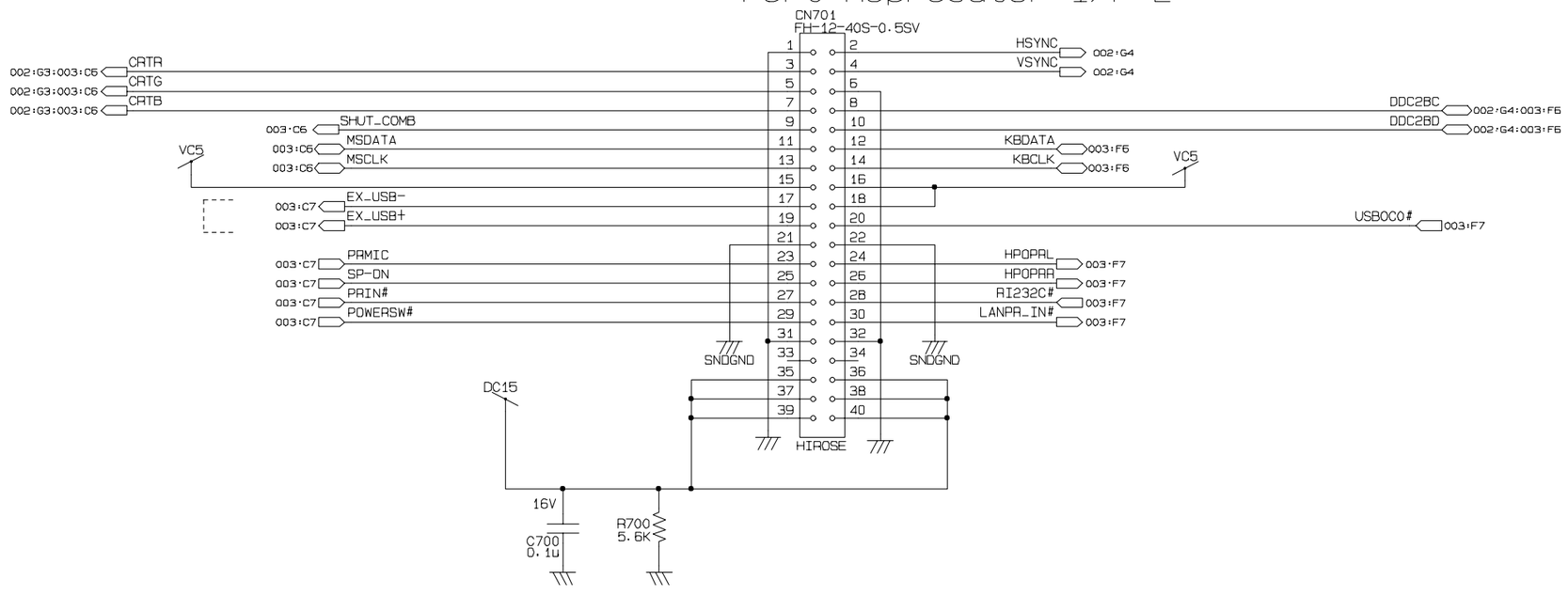
JP760
IC760
001:E4 MEDIA
TC7S04FU


VC5
FDD CN
CN761
LX2A026R100Z
001:E5 INDEX#
001:C4 DS#
001:E5 DSKCHG#
001:C4 MS#
001:C5 DIR
001:E4 DENSEL#
001:C5 STEP#
001:C5 WDATA#
001:C5 WGATE#
001:E5 TRK0#
001:E5 WP#
001:E5 RDATA#
001:C5 HDSEL
SUMIX

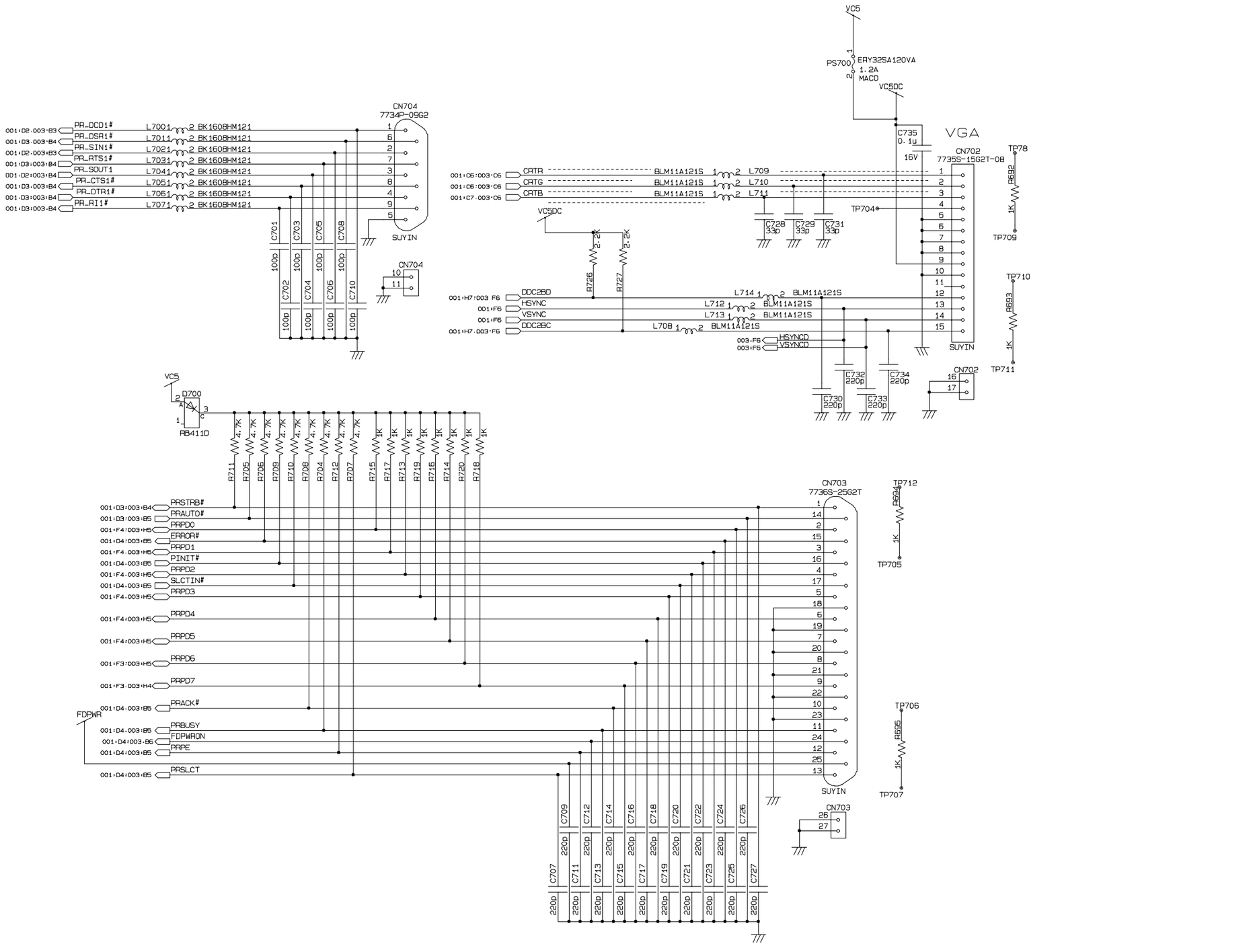
Port Reprecator I/F-1

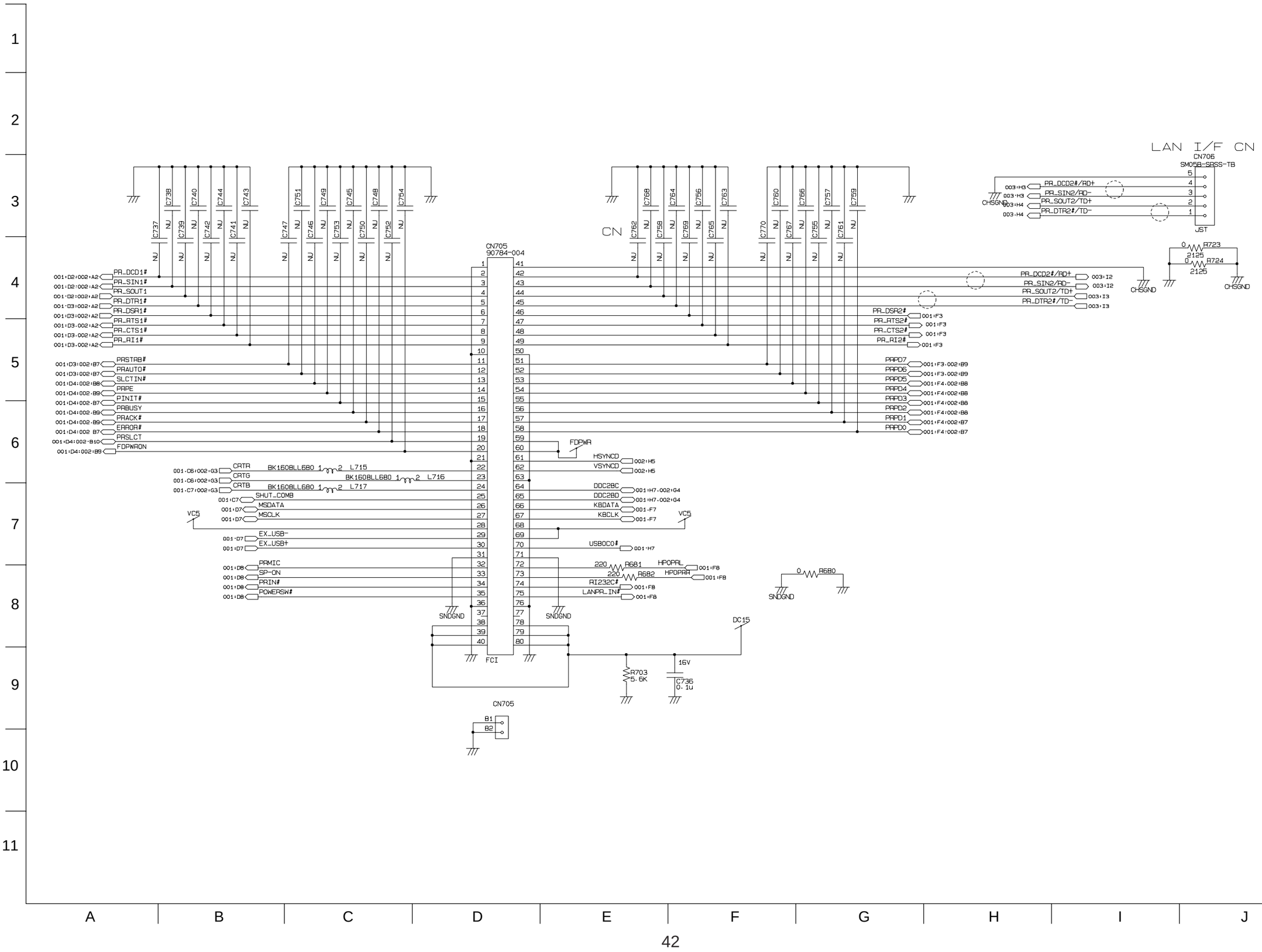


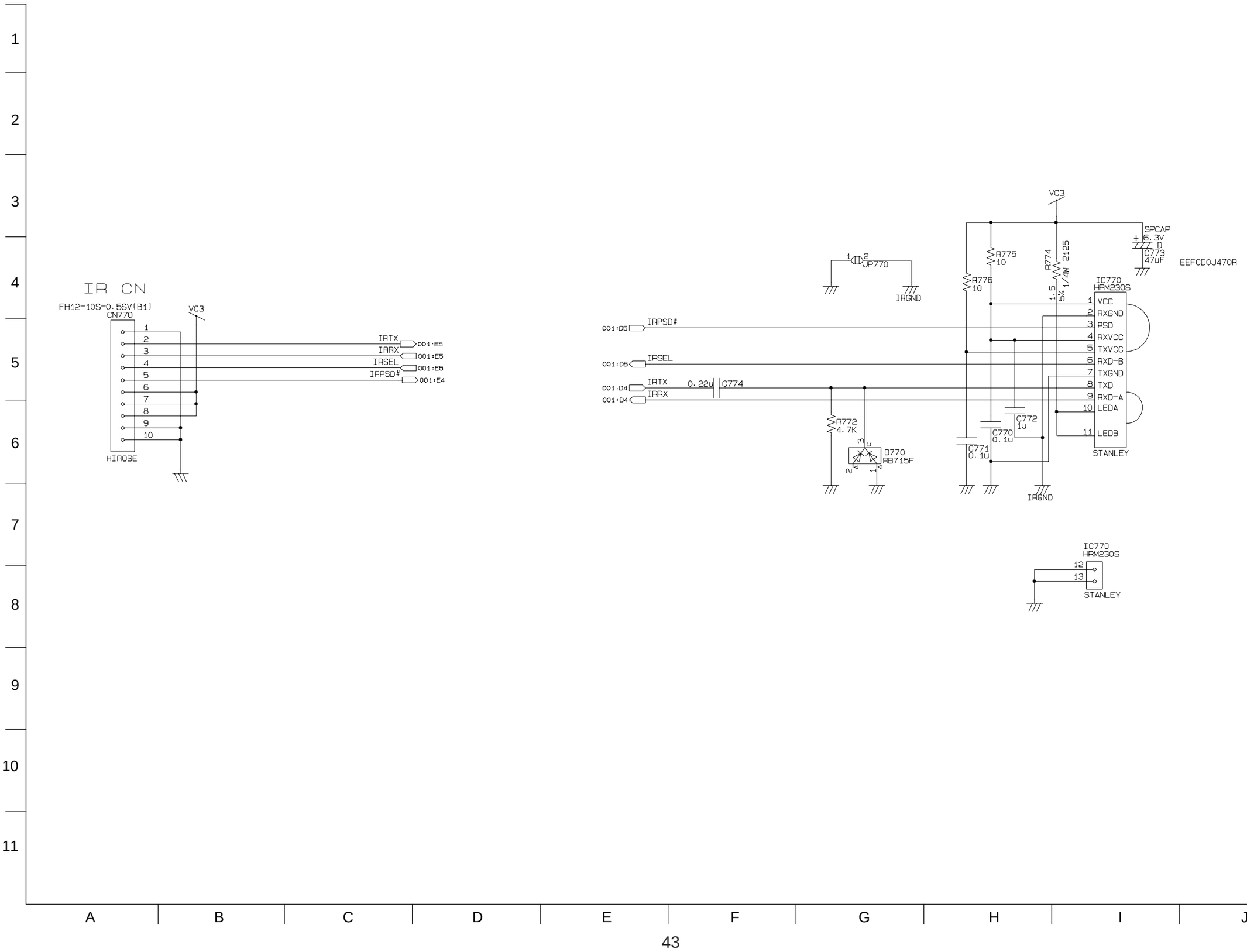
Port Reprecator I/F-2

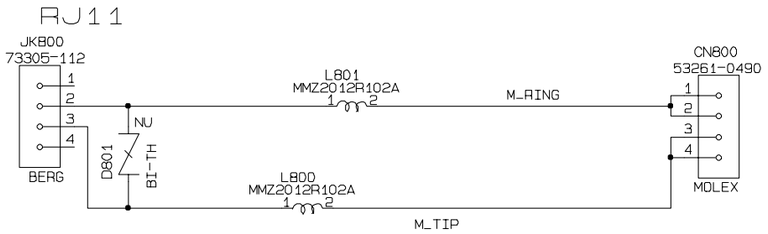


I/O 2 Connector Board




LAN I/F CN
CN706
SM05B-SRSS-TB
JST
PR_DCD2#/RD+
PR_SIN2/RD-
PR_SOUT2/TD+
PR_DTR2#/TD-
CHSGND
R723 0 2125
R724 0 2125
CN705
90784-004
FCI
CN
PR_DCD1#
PR_SIN1#
PR_SOUT1
PR_DTR1#
PR_DSR1#
PR_RTS1#
PR_CTS1#
PR_RI1#
PASTRB#
PRAUTO#
SLCTIN#
PAPE
PINIT#
PABUSY
PRACK#
ERROR#
PASLCT
FDPWRON
PR_DSR2#
PR_RTS2#
PR_CTS2#
PR_RI2#
PRPD7
PRPD6
PRPD5
PRPD4
PRPD3
PRPD2
PRPD1
PRPD0
FDPWR
HSYNCD
VSYNCD
DDC2BC
DDC2BD
KBDATA
KBCLK
USB0C0#
CRTR
CRTG
CRTB
BK1608LL680
L715
L716
L717
SHUT_COMB
MSDATA
MSCLK
EX_USB-
EX_USB+
PRMIC
SP-ON
PRIN#
POWERSW#
HPOPRL
HPOPRR
RI232C#
LANPR_IN#
R681 220
R682 220
R680 0
VC5
SNDGND
DC15
R703 5.6K
C736 0.1U
16V
CN705
B1
B2


IR CN
FH12-10S-0.5SV(B1)
CN770
VC3
1
2
3
4
5
6
7
8
9
10
HIROSE
IRTX
IRRX
IRSEL
IRPSD#
001:E5
001:E5
001:E5
001:E4
JP770
IRGND
R775
10
R776
10
R774
1.5
5%
1/4W
2125
SPCAP
6.3V
D
C773
47uF
EEFCD0J470R
IC770
HRM230S
VCC
RXGND
PSD
RXVCC
TXVCC
RXD-B
TXGND
TXD
RXD-A
LEDA
LEDB
STANLEY
001:D5
IRPSD#
001:D5
IRSEL
001:D4
IRTX
001:D4
IRRX
0.22u
C774
R772
4.7K
D770
RB715F
C771
0.1u
C770
0.1u
C772
1u
IRGND
IC770
HRM230S
12
13
STANLEY

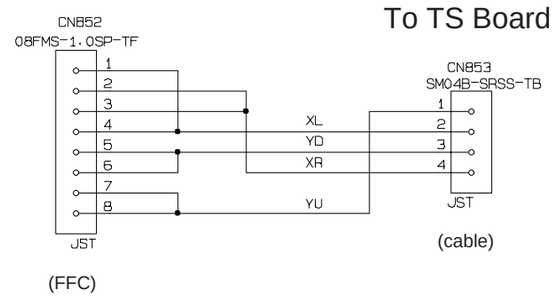

RJ11
JK800
73305-112
1
2
3
4
BERG
D801
NU
BI-TH
L801
MMZ2012R102A
1
2
M_RING
L800
MMZ2012R102A
1
2
M_TIP
CN800
53261-0490
1
2
3
4
MOLEX

TS Connector Board (12.1)

For 12.1 inch

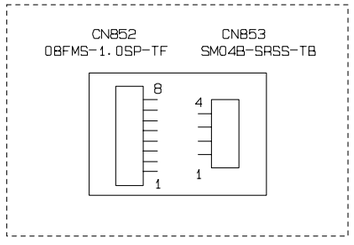
To TS Panel

To TS Board



(FFC)

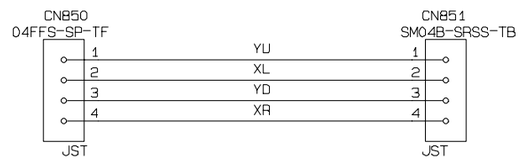
(cable)



For 13.3 inch

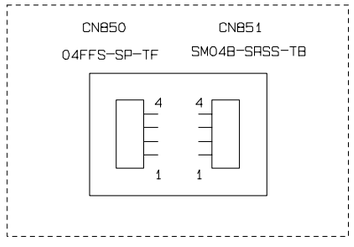
To TS Panel

To TS Board



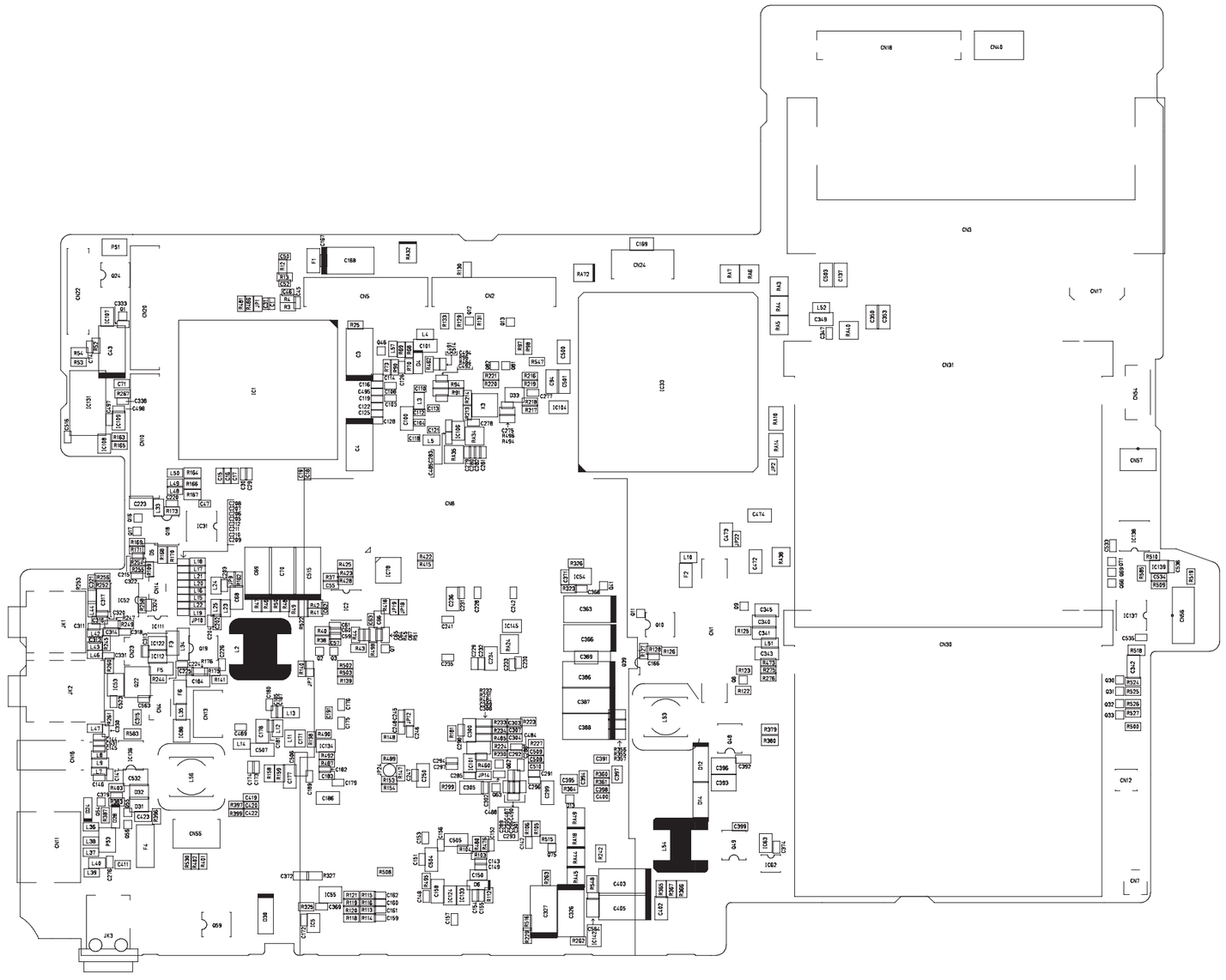
(FFC)

(cable)

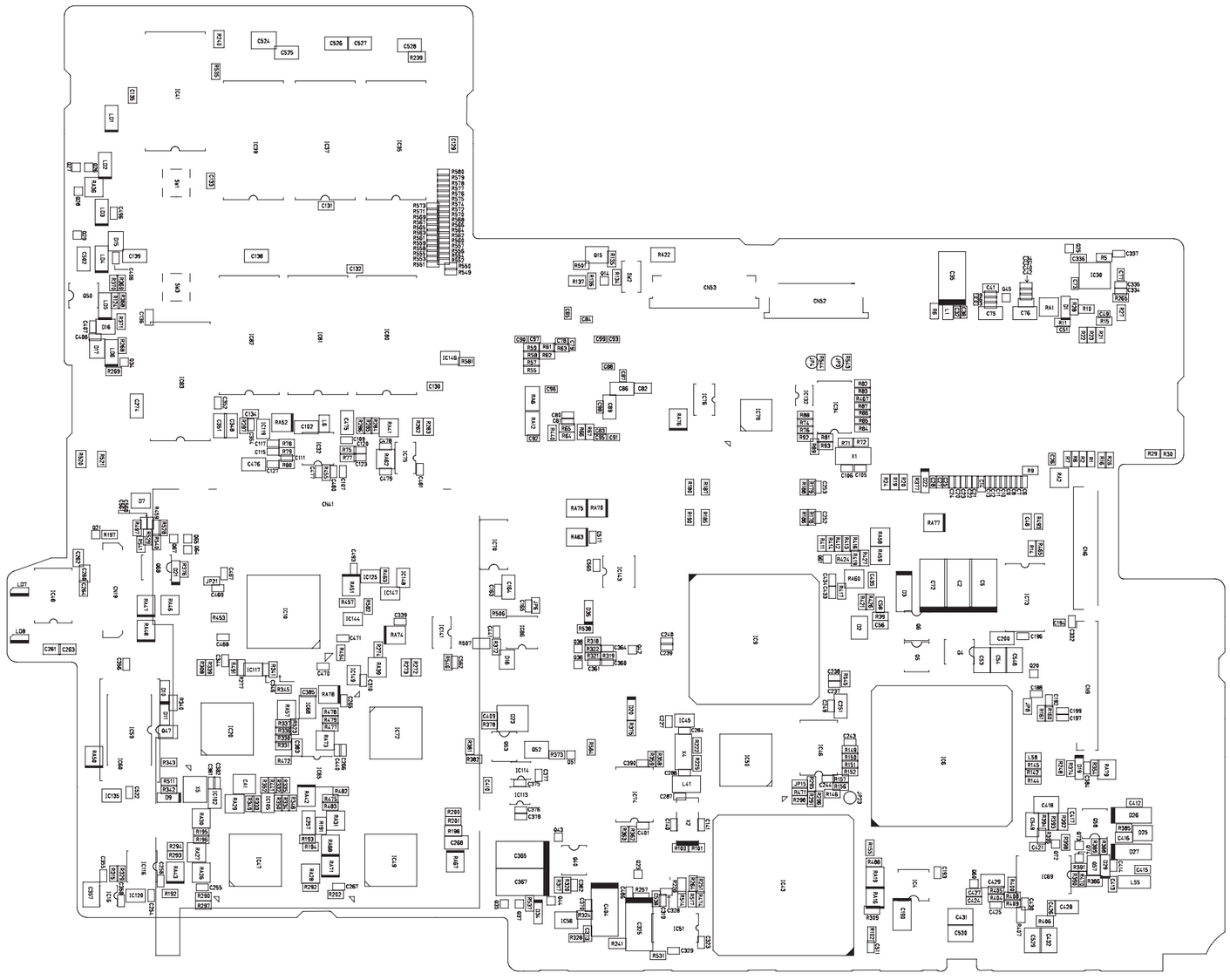


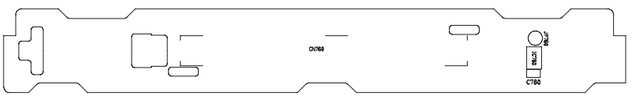
11. Printed Circuit Board

11.1. Main PCB <Top View>

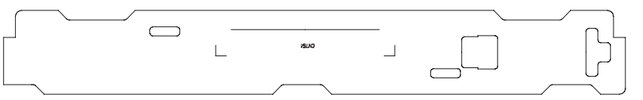


11.2. Main PCB <Bottom View>

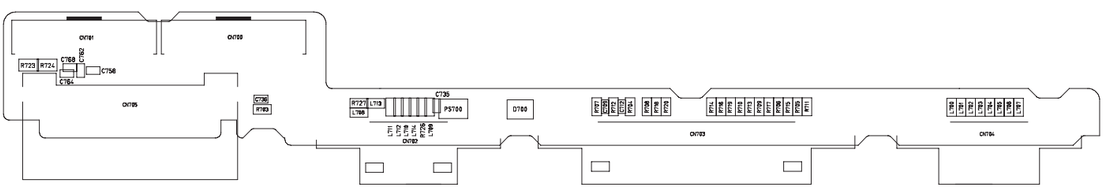




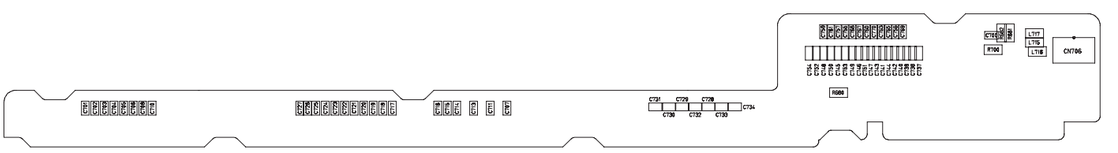
11.3. FDD PCB <Top View>



11.4. FDD PCB <Bottom View>

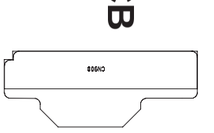


11.5. I/O PCB <Top View>

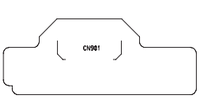


11.6. I/O PCB <Bottom View>

11.7. Battery PCB

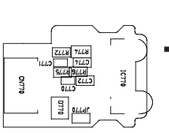


<Top View>

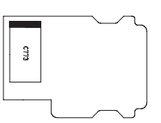


<Bottom View>

11.8. IR PCB

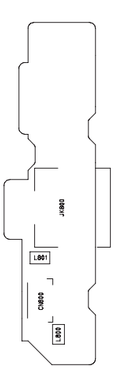


<Top View>



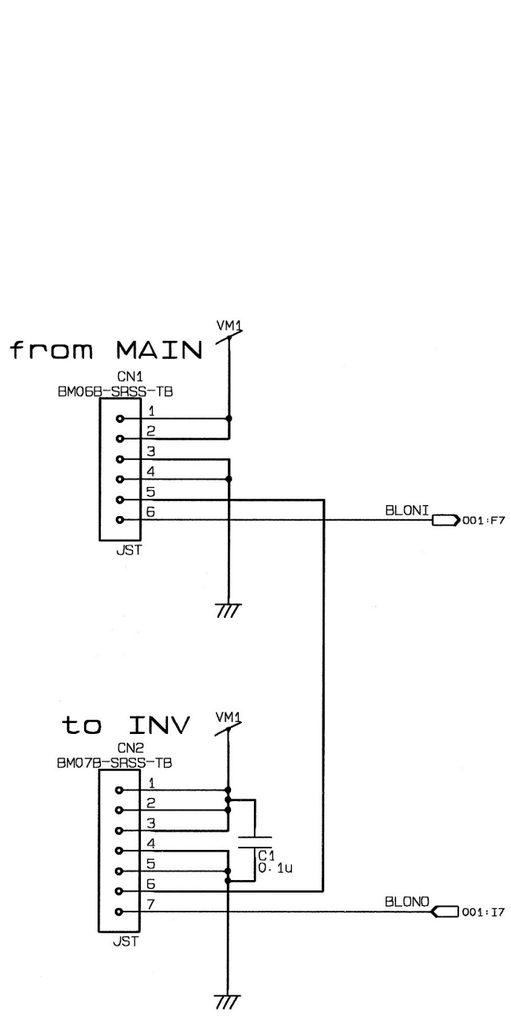
<Bottom View>

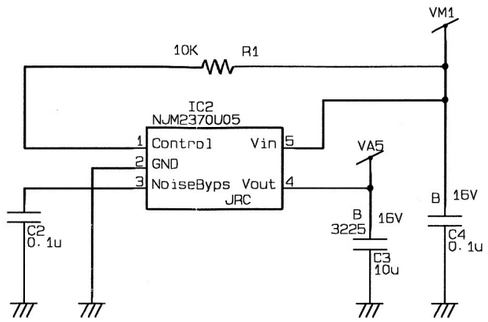
11.9. RJ PCB

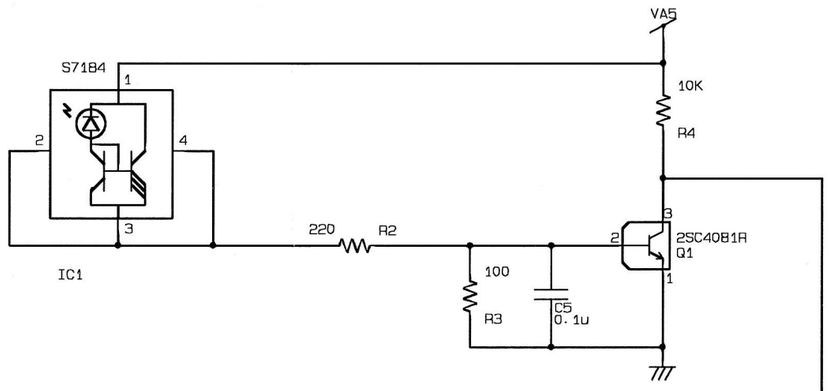


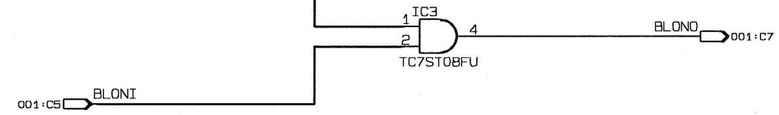
11.10. TS13 PCB

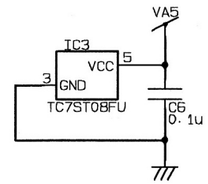
Schematic Diagram
SUB9 SENSOR





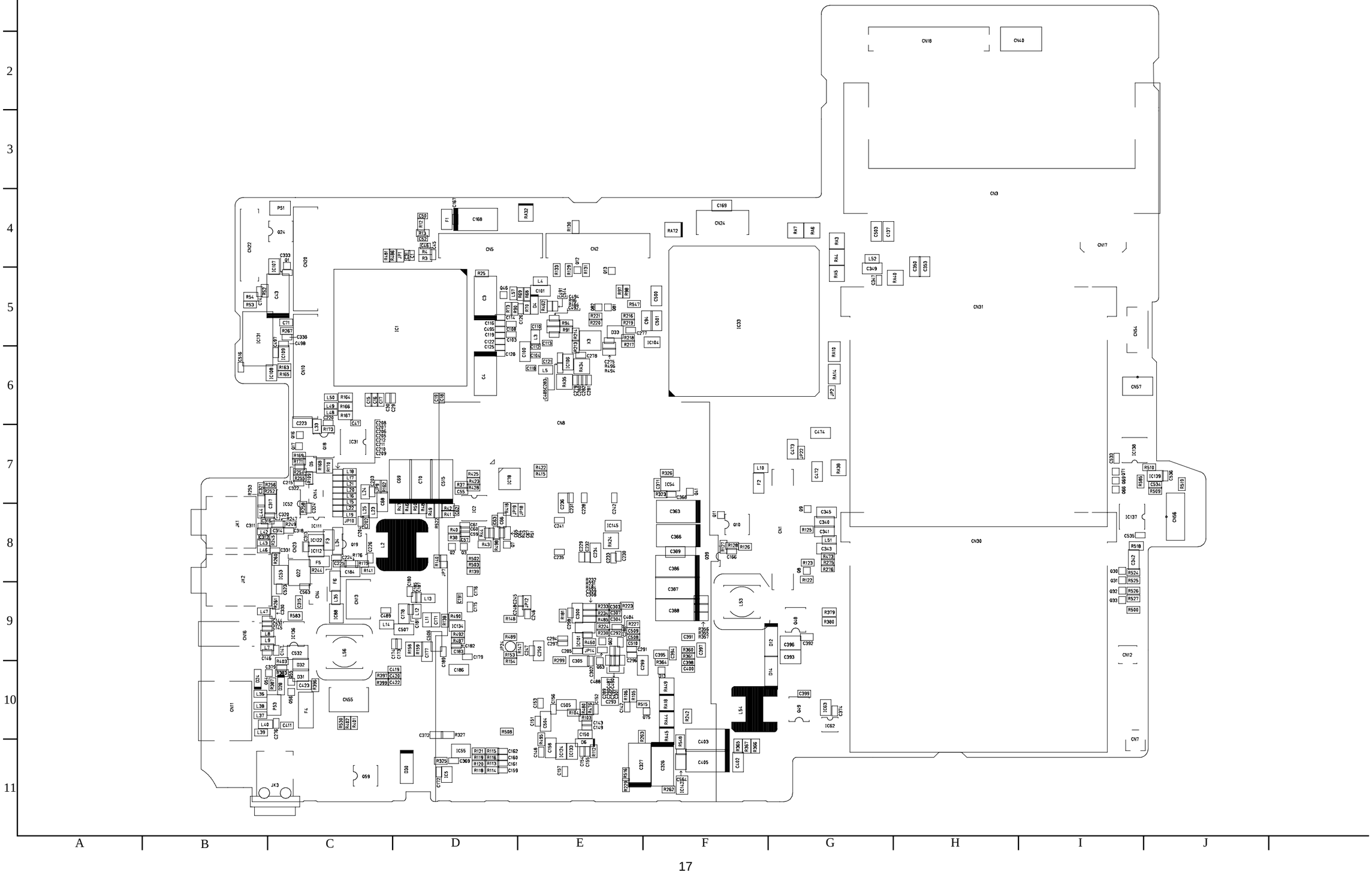






Printed Circuit Board

1. Main PCB <Top View>


CN18
CN40
CN3
CN17
CN31
CN54
CN57
CN30
CN12
CN7
CN5
CN2
CN8
CN55
CN11
CN6
CN4
CN13
CN14
CN22
CN20
CN10
CN1
CN24
IC1
IC33
IC31
IC52
IC111
IC54
IC145
IC138
IC137
IC62
IC104
P51
Q24
JK1
JK2
JK3
F1
F2
F3
F4
F5
F6
L2
L96
D30
D32
D31
D24
D26
D38
D33
D12
D14
X3
RA72
RA7
RA6
RA10
RA14
RA40
RA35
RA34
RA49
RA18
RA44
RA45
C168
C169
C167
C101
C3
C4
C503
C137
C350
C353
C349
C347
C54
C501
C569
C277
C278
C275
C496
C494
C295
C296
C363
C366
C389
C386
C387
C388
C396
C393
C391
C392
C399
C403
C405
C402
C474
C473
C472
C345
C340
C341
C343
C342
C534
C535
C536
C533
C506
C374
C372
C327
C326
C294
C297
C285
C288
C289
C290
C291
C292
C293
C298
C299
C300
C301
C302
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C306
C307
C308
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C311
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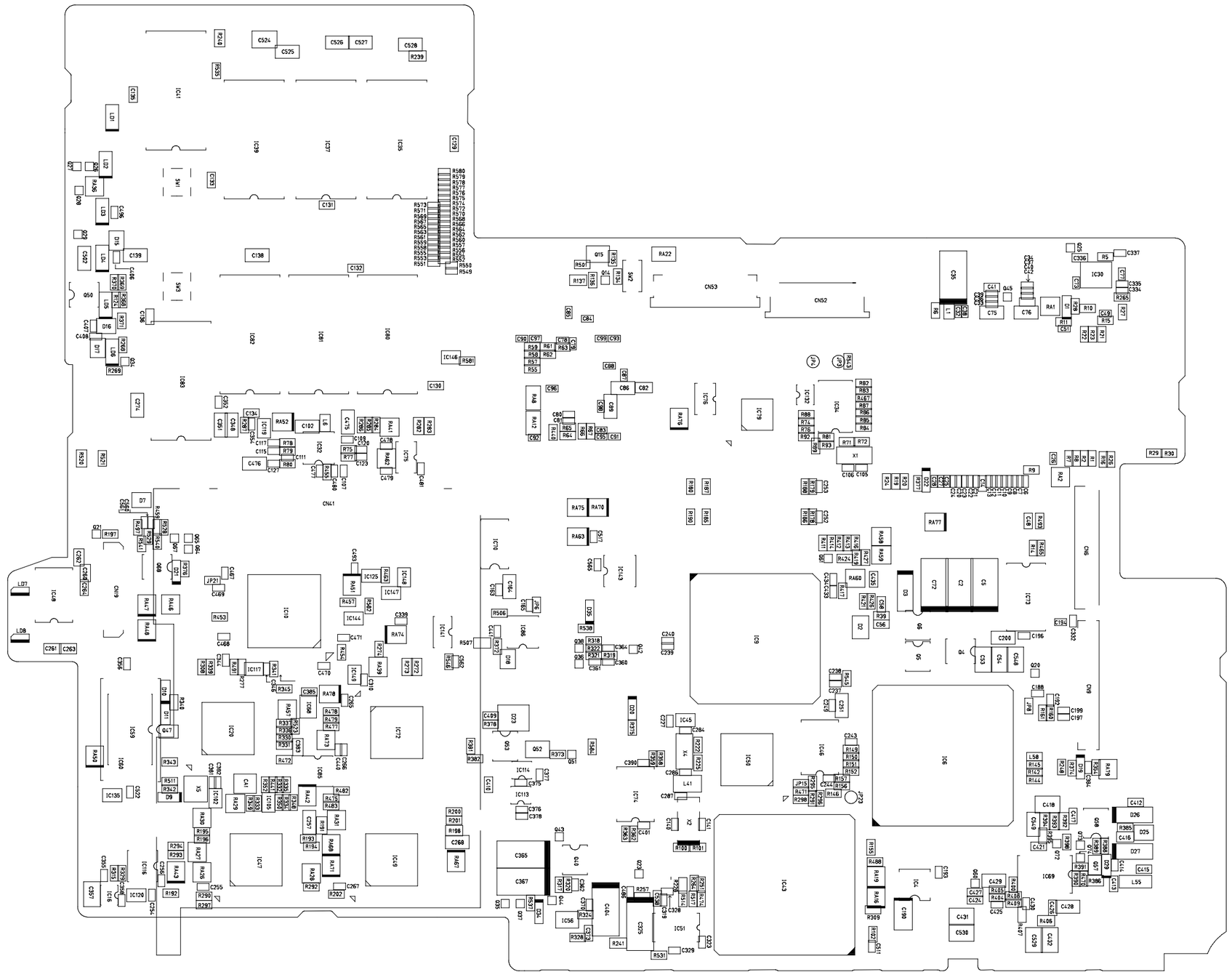
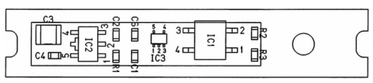
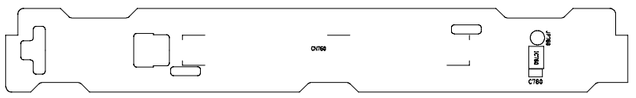
C379
C380
C381
C382
C383
C384
C385
C386
C387
C388
C389
C390
C391
C392
C393
C394
C395

2. Main PCB <Bottom View>

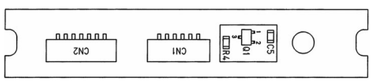




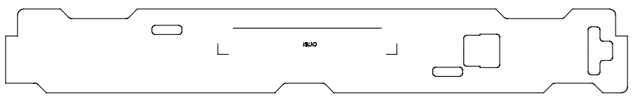
7. SENSOR PCB <Top View>



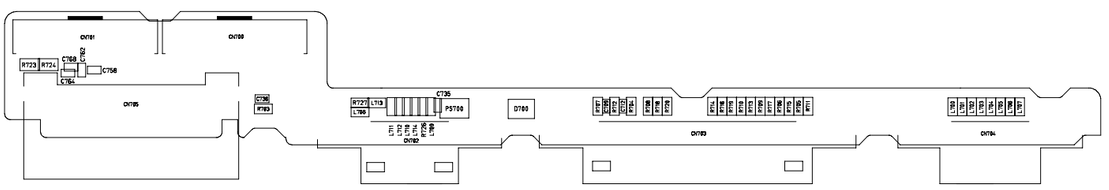
3. FDD PCB <Top View>



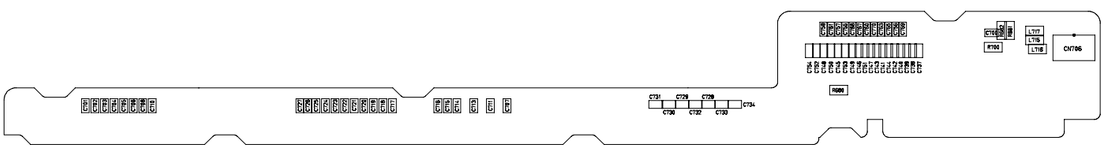
8. SENSOR PCB <Bottom View>



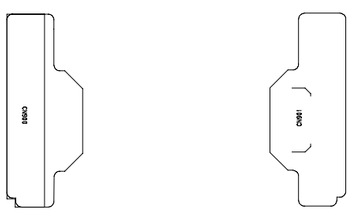
4. FDD PCB <Bottom View>



5. I/O PCB <Top View>



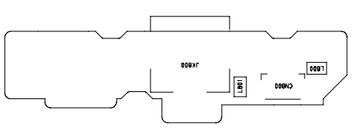
6. I/O PCB <Bottom View>



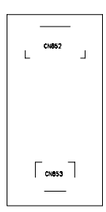
9. Battery PCB <Top View> <Bottom View>

10. IR PCB <Top View> <Bottom View>

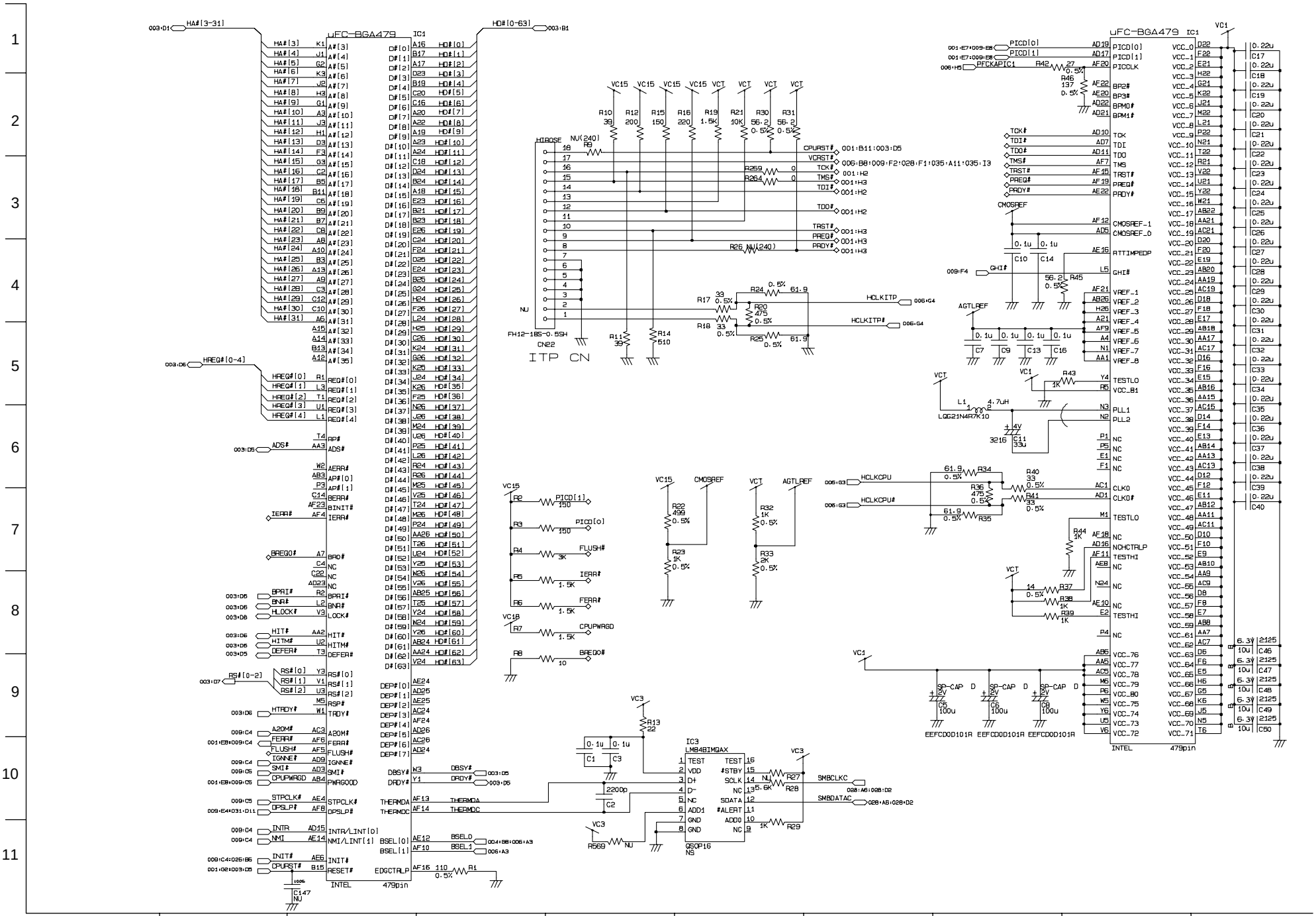
11. RJ PCB



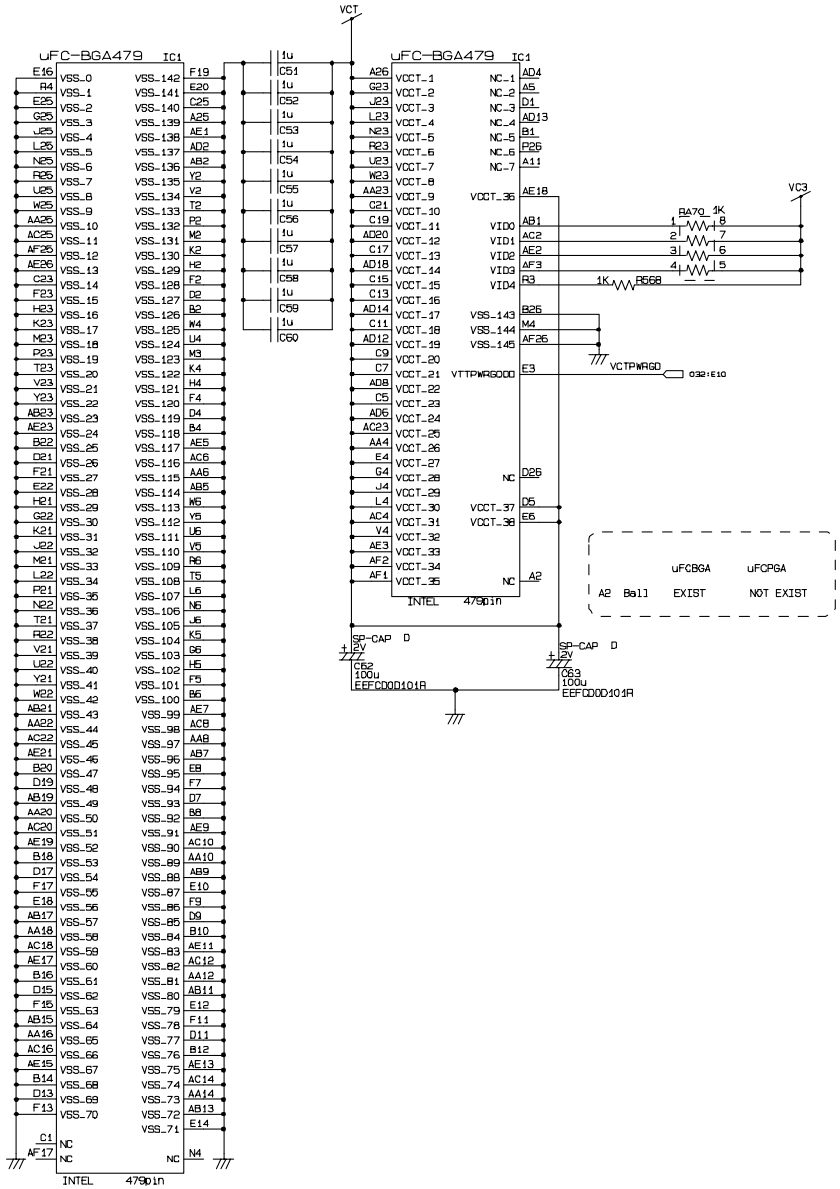
12. TS12 PCB



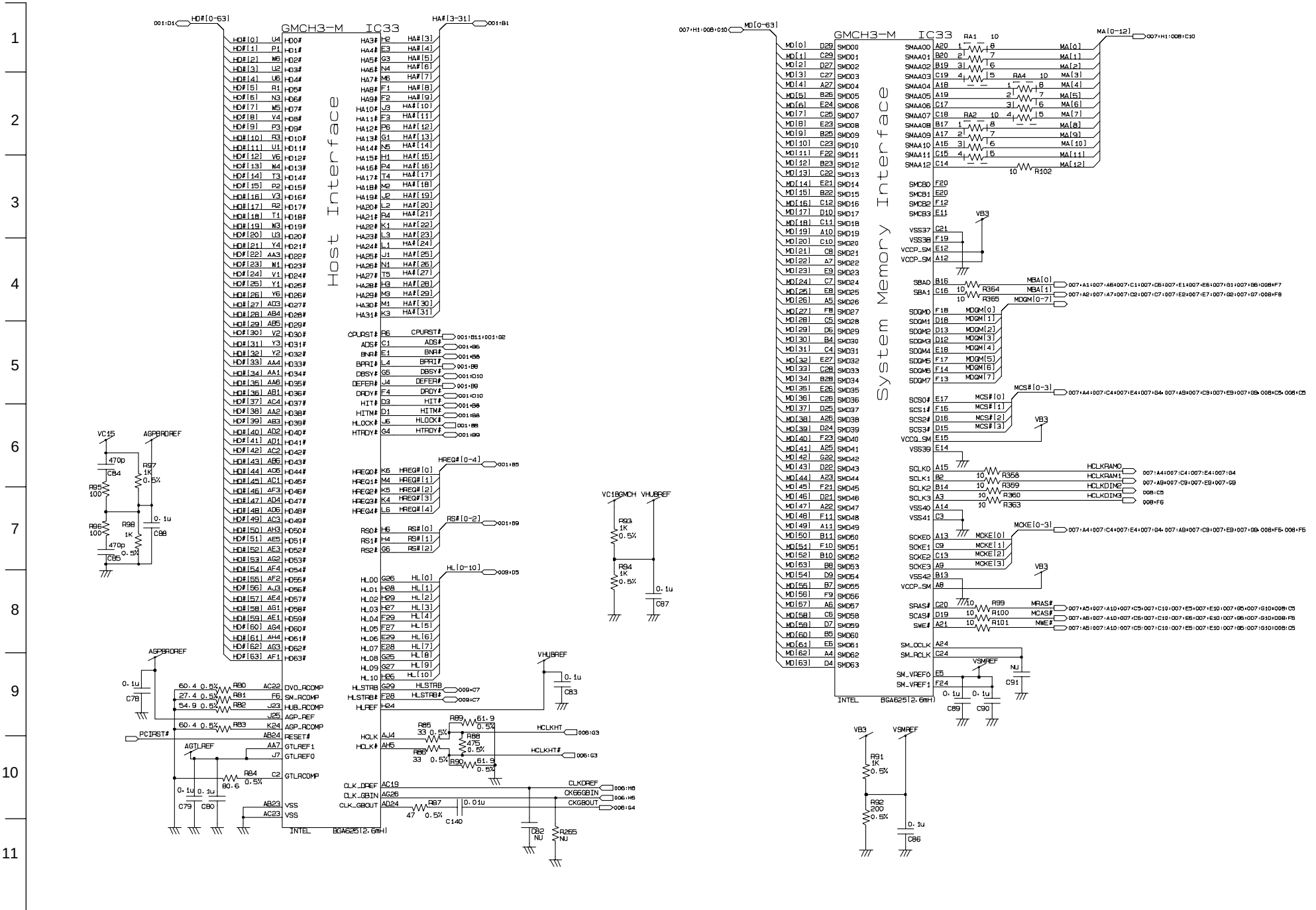
CF-28
Schematic Diagrams
Main 1 CPU (1 / 2)



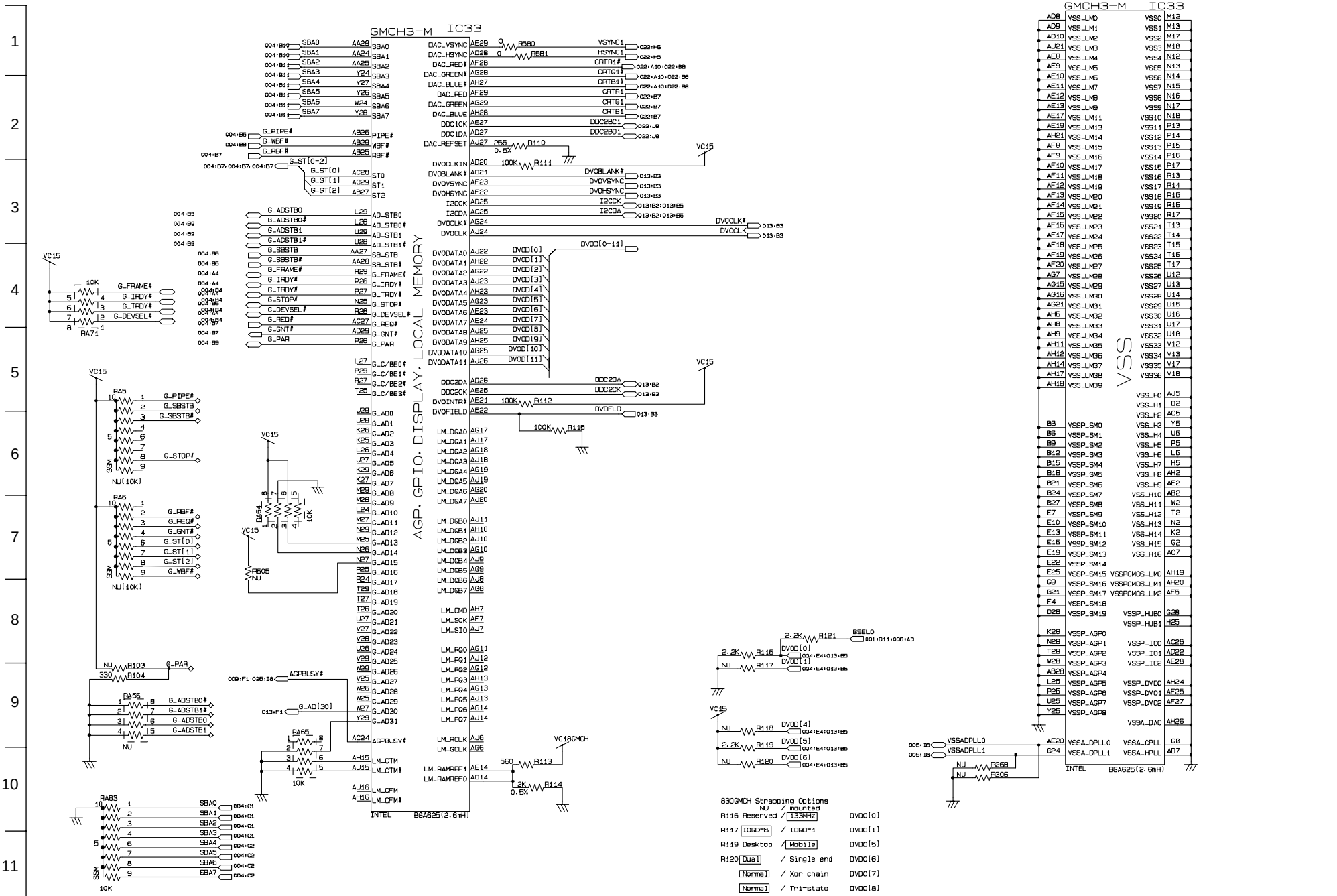
Main 2 CPU (2 / 2)


uFC-BGA479 IC1
INTEL 479pin
VCT
C51 1u
C52 1u
C53 1u
C54 1u
C55 1u
C56 1u
C57 1u
C58 1u
C59 1u
C60 1u
VCC_36
VID0
VID1
VID2
VID3
VID4
VTTPWRGOOD
VSS_143
VSS_144
VSS_145
VC3
RA79_1K
1K R568
VCTPWRGD
D32:E10
SP-CAP D
2V
C62 100u EEFCD0D101R
C63 100u EEFCD0D101R
uFCBGA uFCPGA
A2 Ball EXIST NOT EXIST

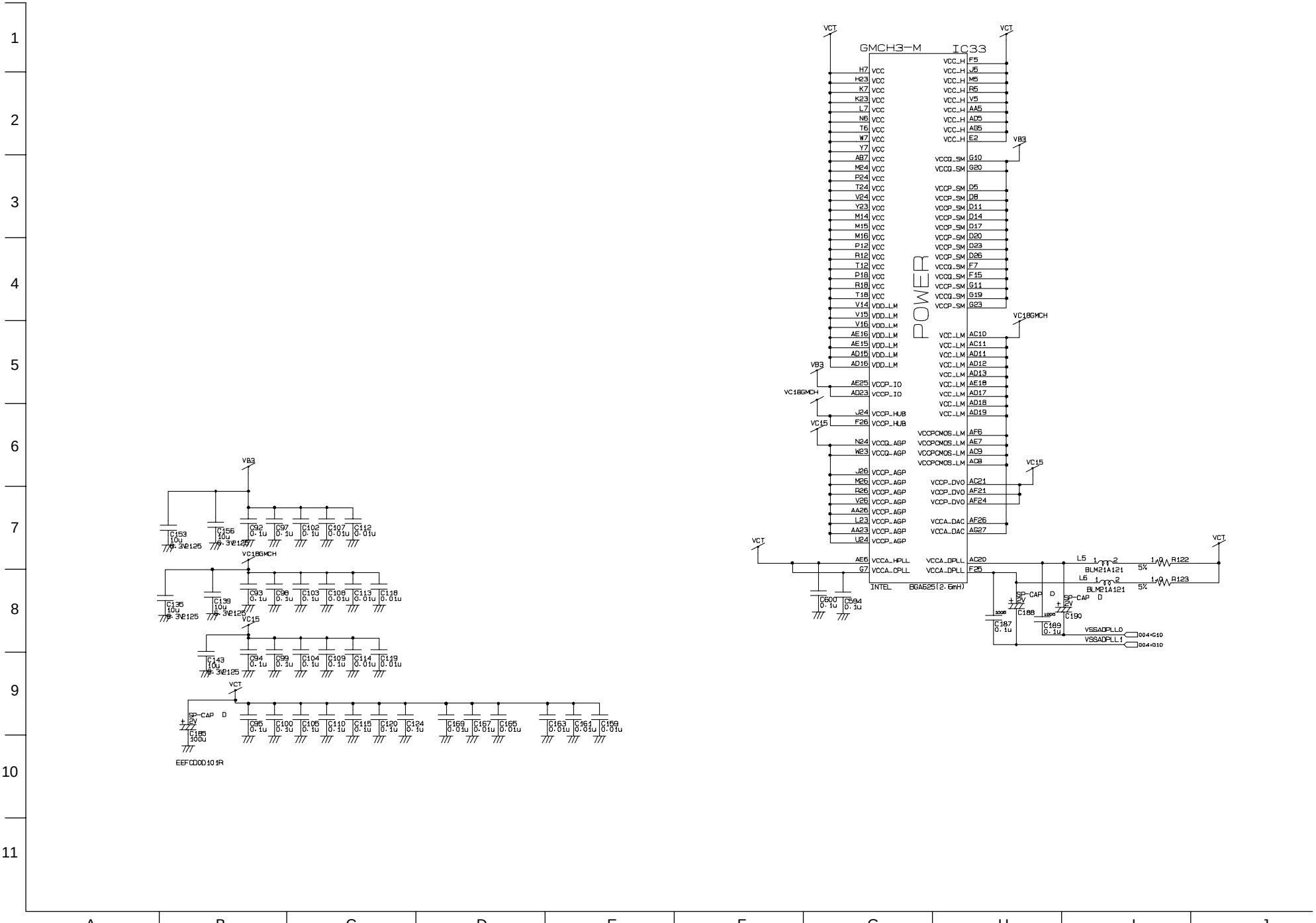
Main 3 GMCH3 (1 / 3)



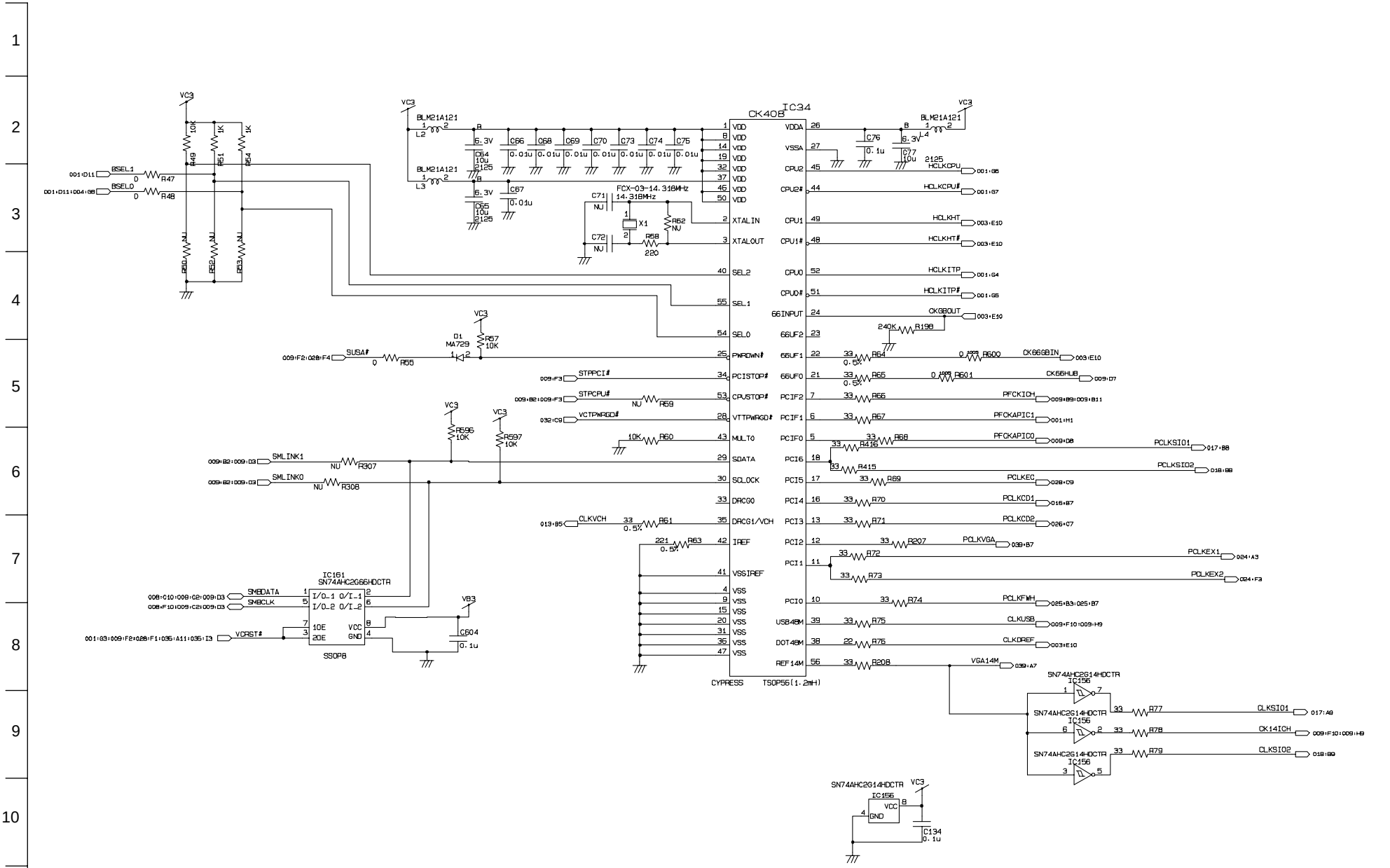
Main 4 GMCH3 (2 / 3)



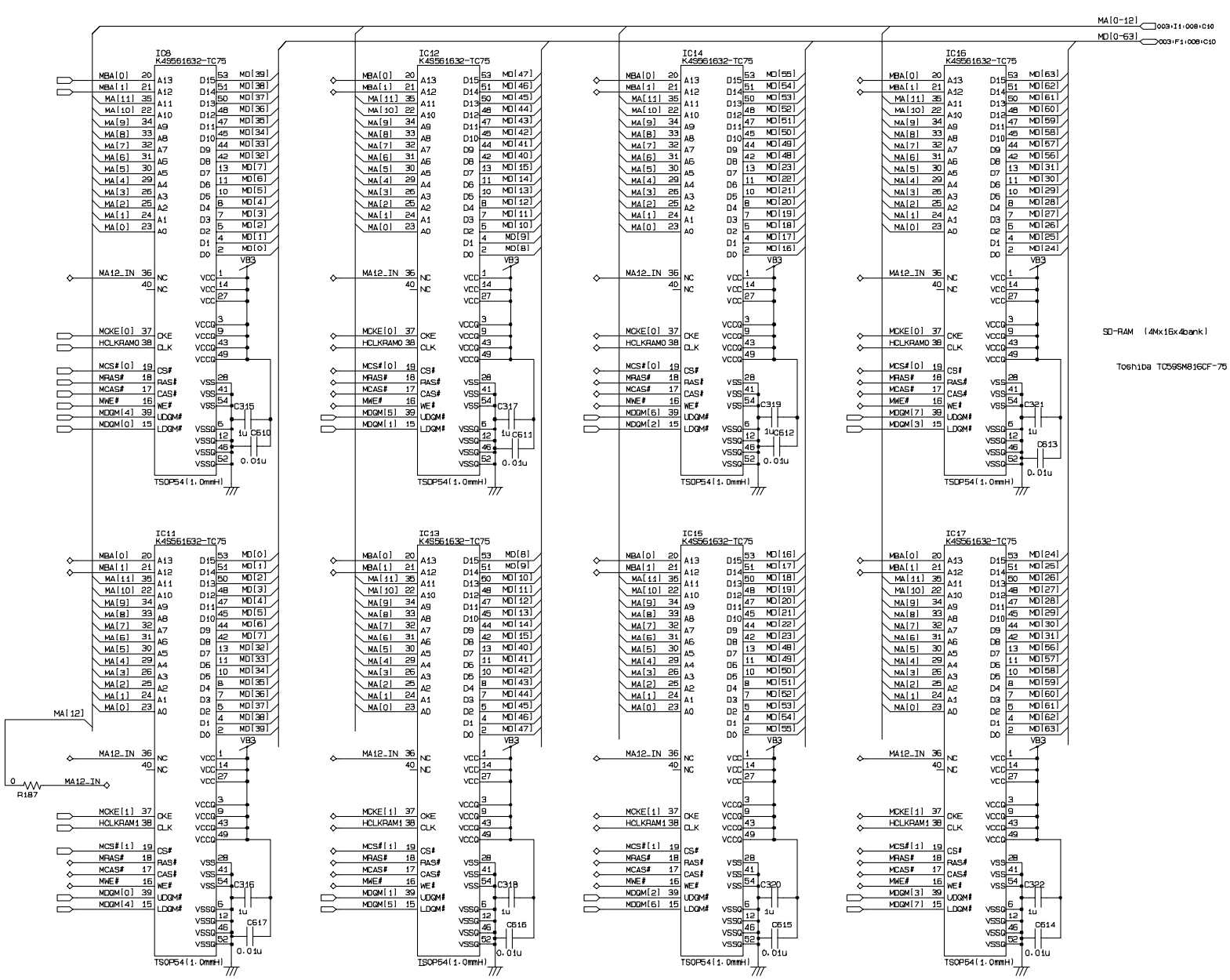
Main 5 GMCH3 (3 / 3)



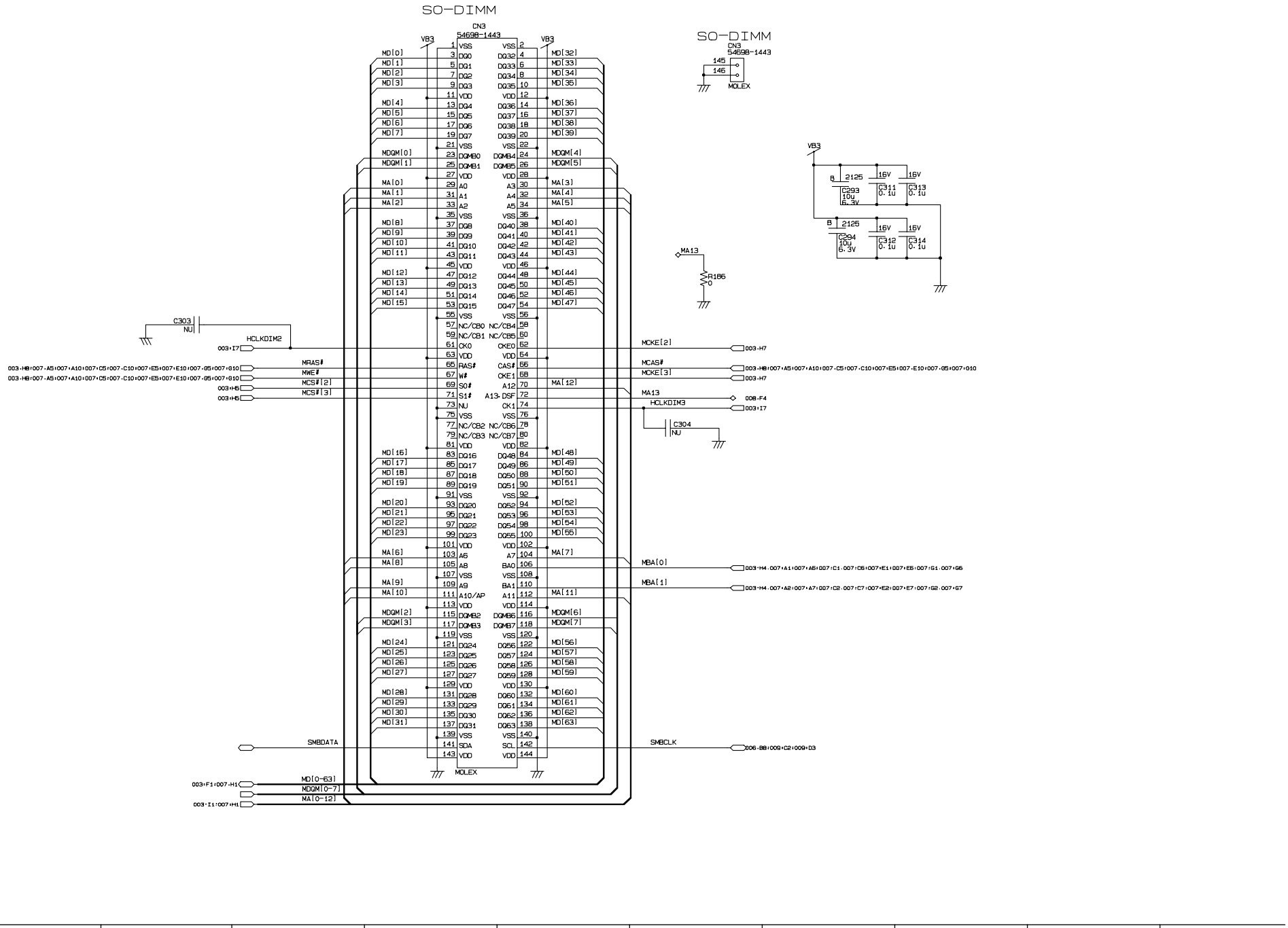
Main 6 Clock


IC34
CK408
CYPRESS TSOP56(1.2mH)
IC161
SN74AHC2G66HDCTR
SSOP8
SN74AHC2G14HDCTR
BLM21A121
FCX-03-14.318MHz
14.318MHz
MA729
SMBDATA
SMBCLK
VCRST#
SUSA#
SMLINK1
SMLINK0
STPPCI#
STPCPU#
VCTPWRGD#
CLKVCH
HCLKCPU
HCLKCPU#
HCLKHT
HCLKHT#
HCLKITP
HCLKITP#
OKGBOUT
CK666BIN
CK66HUB
PFCKICH
PFCKAPIC1
PFCKAPIC0
PCLKSIO1
PCLKSIO2
PCLKEC
PCLKCD1
PCLKCD2
PCLKVGA
PCLKEX1
PCLKEX2
PCLKFWH
CLKUSB
CLKDREF
VGA14M
CLKSIO1
CK14ICH
CLKSIO2
VC3
VB3

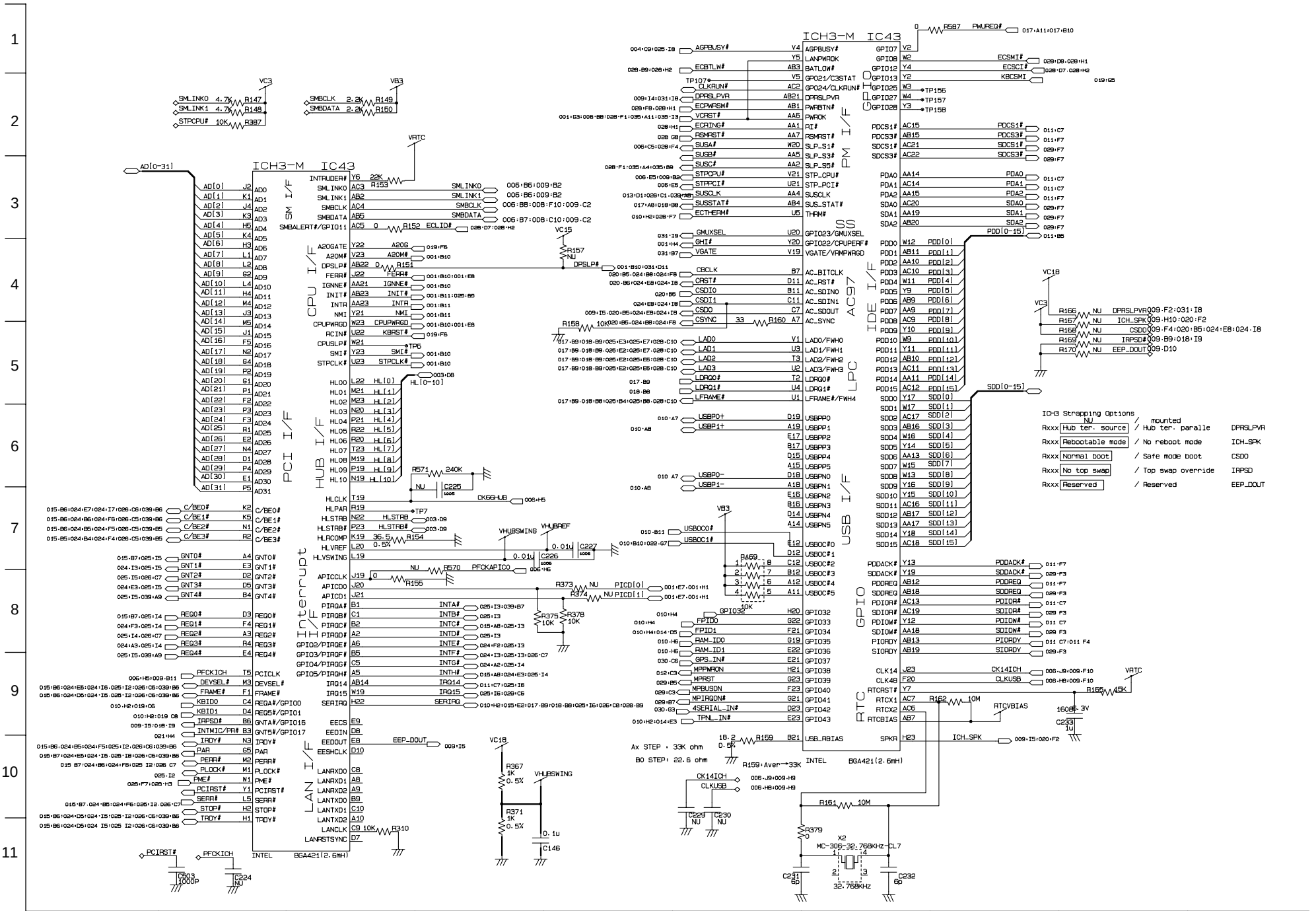
Main 7 On Board Memory



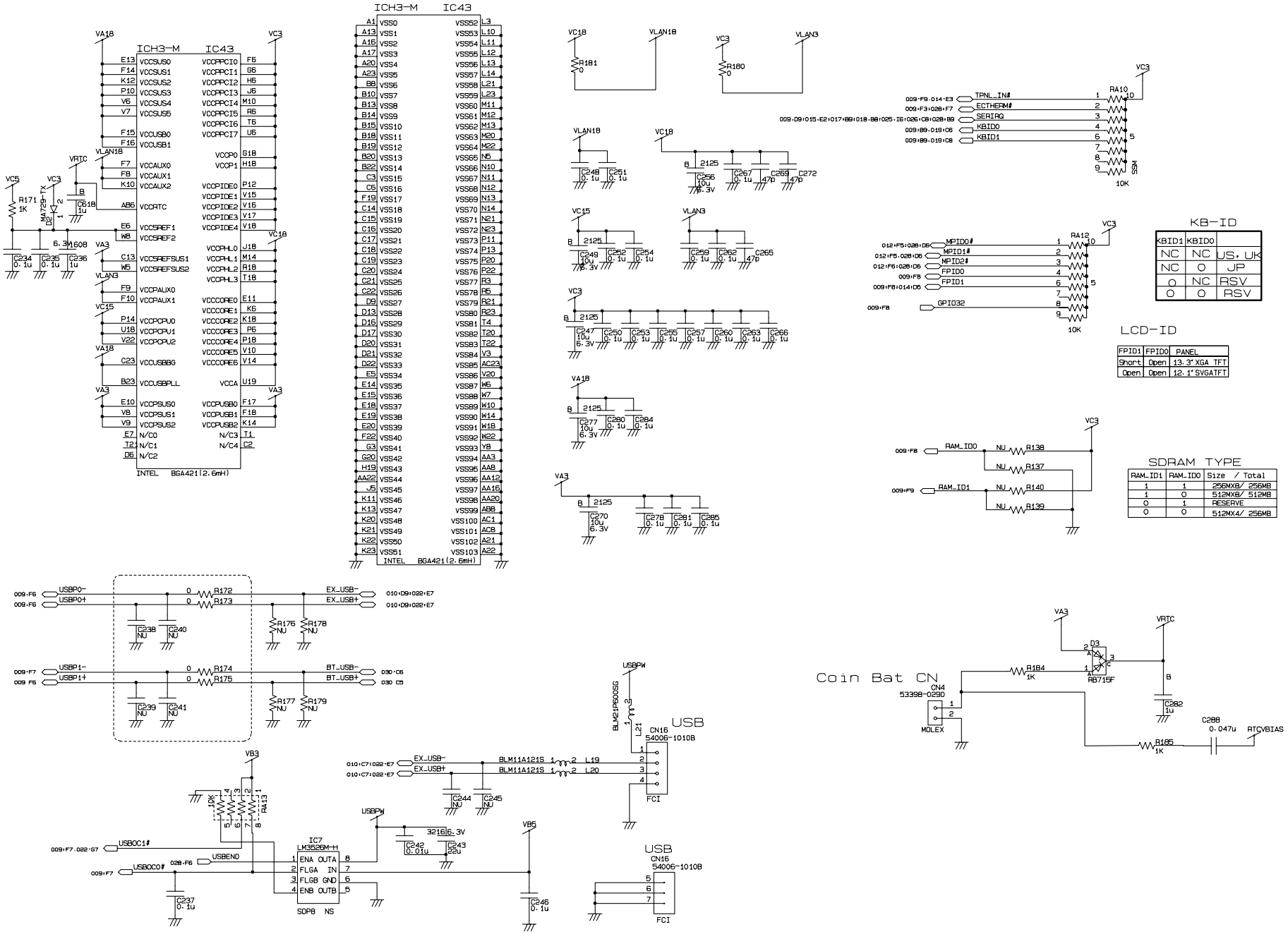
Main 8 SO DIMM



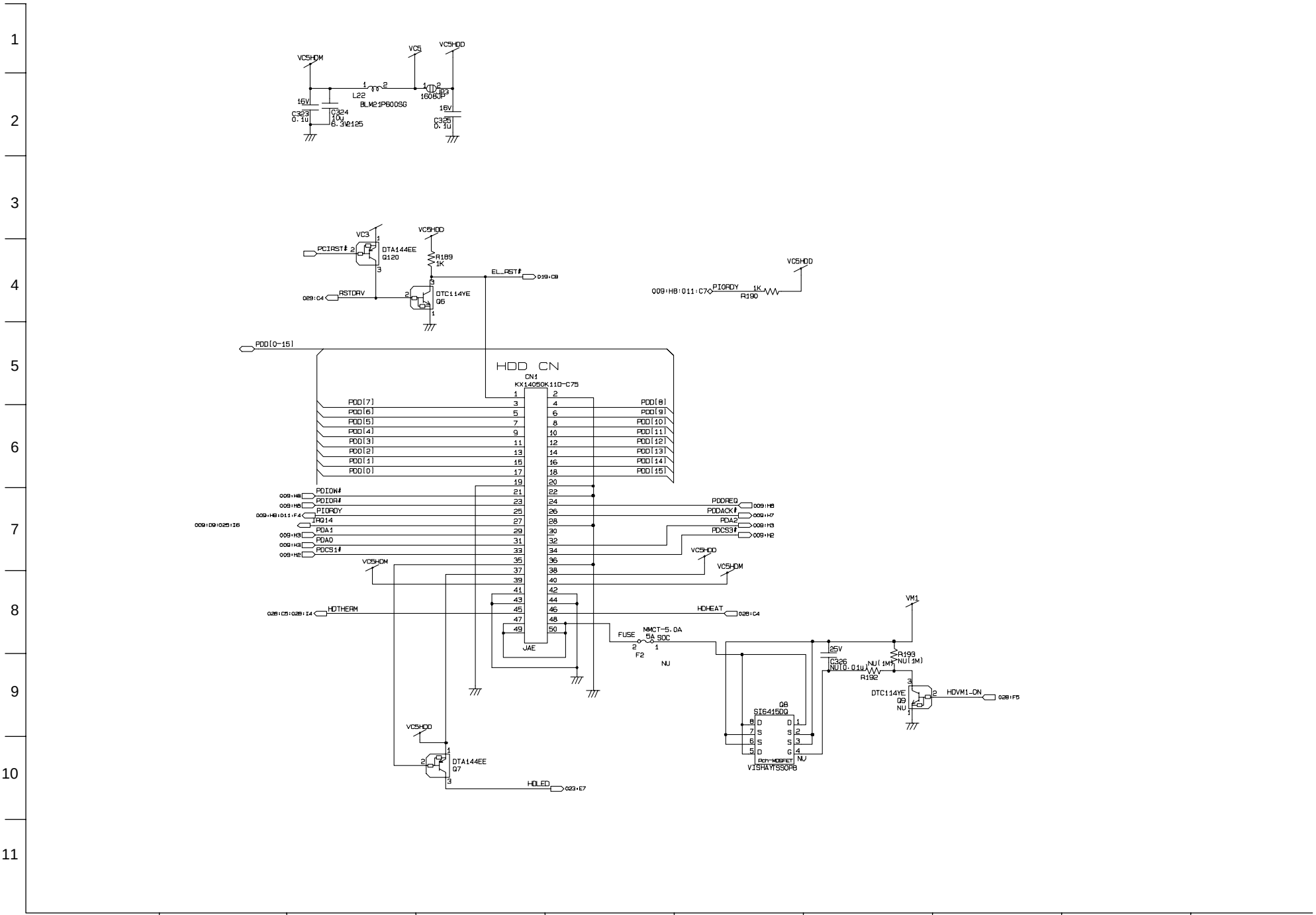
Main 9 ICH3, USB (1 / 2)



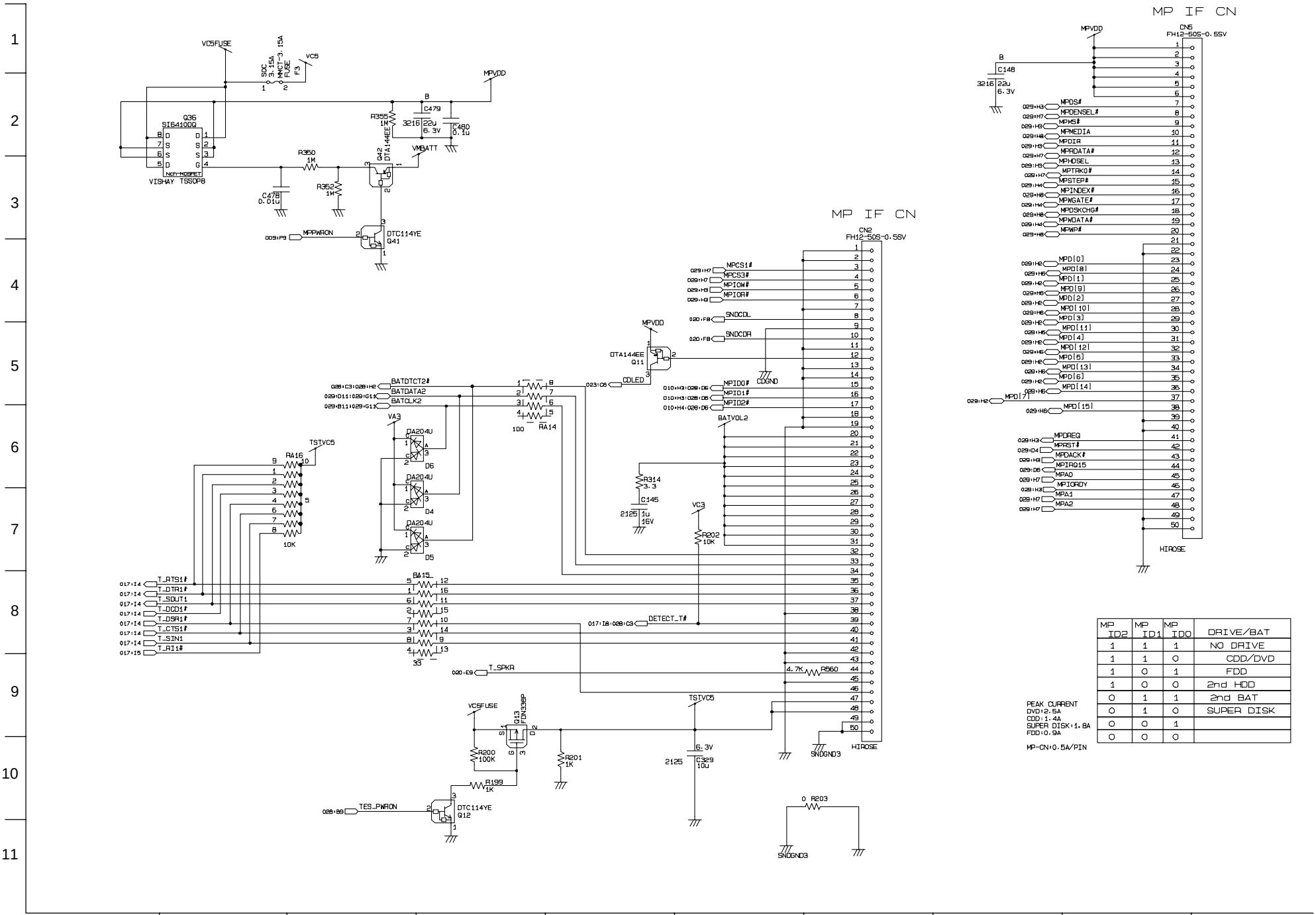
Main 10 ICH3, USB (2 / 2)



Main 11 HDD I/F



Main 12 MP, Tester CN

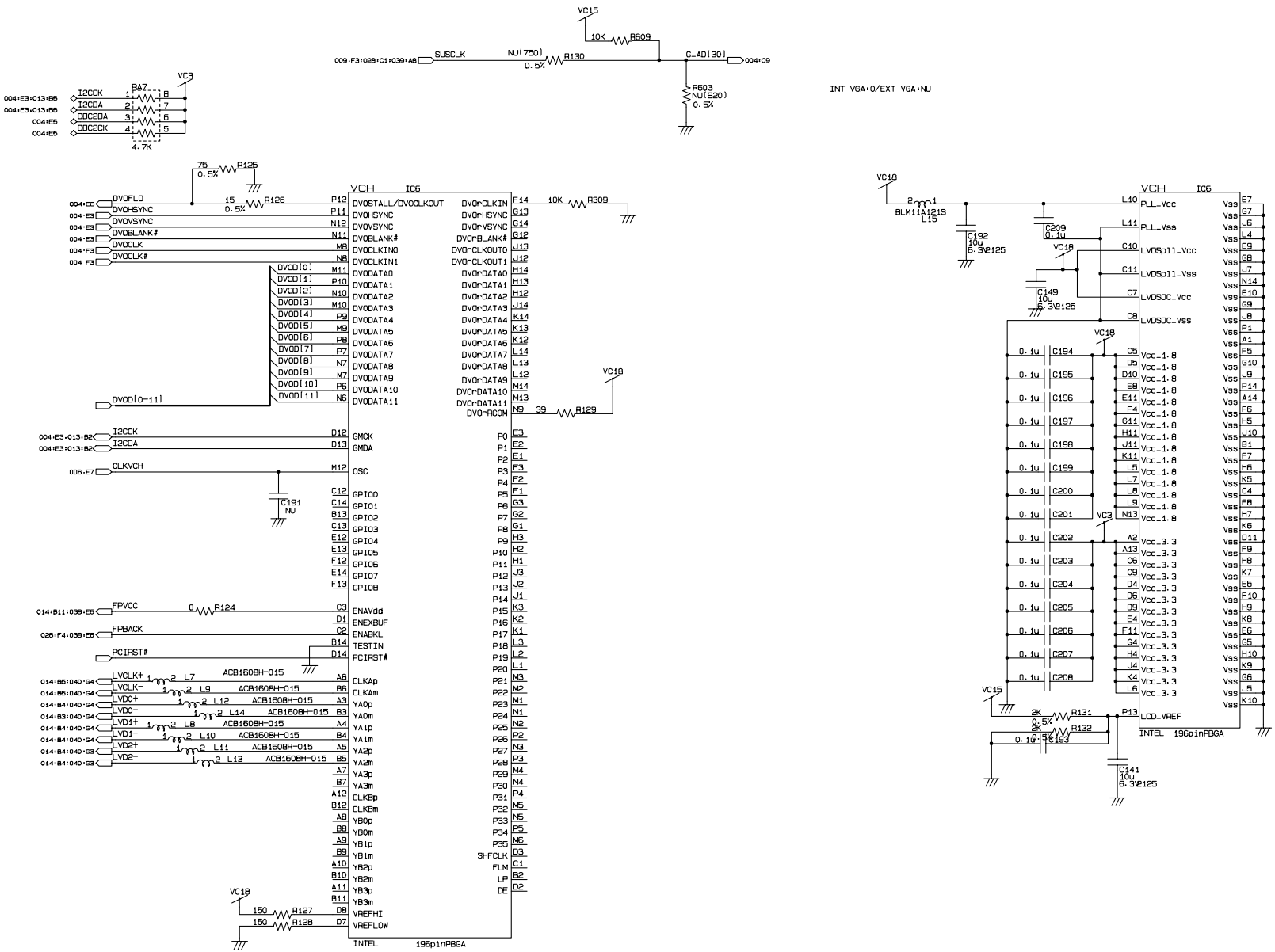


MP ID2	MP ID1	MP IDO	DRIVE/BAT
1	1	1	NO DRIVE
1	1	0	CDD/DVD
1	0	1	FDD
1	0	0	2nd HDD
0	1	1	2nd BAT
0	1	0	SUPER DISK
0	0	1	
0	0	0	

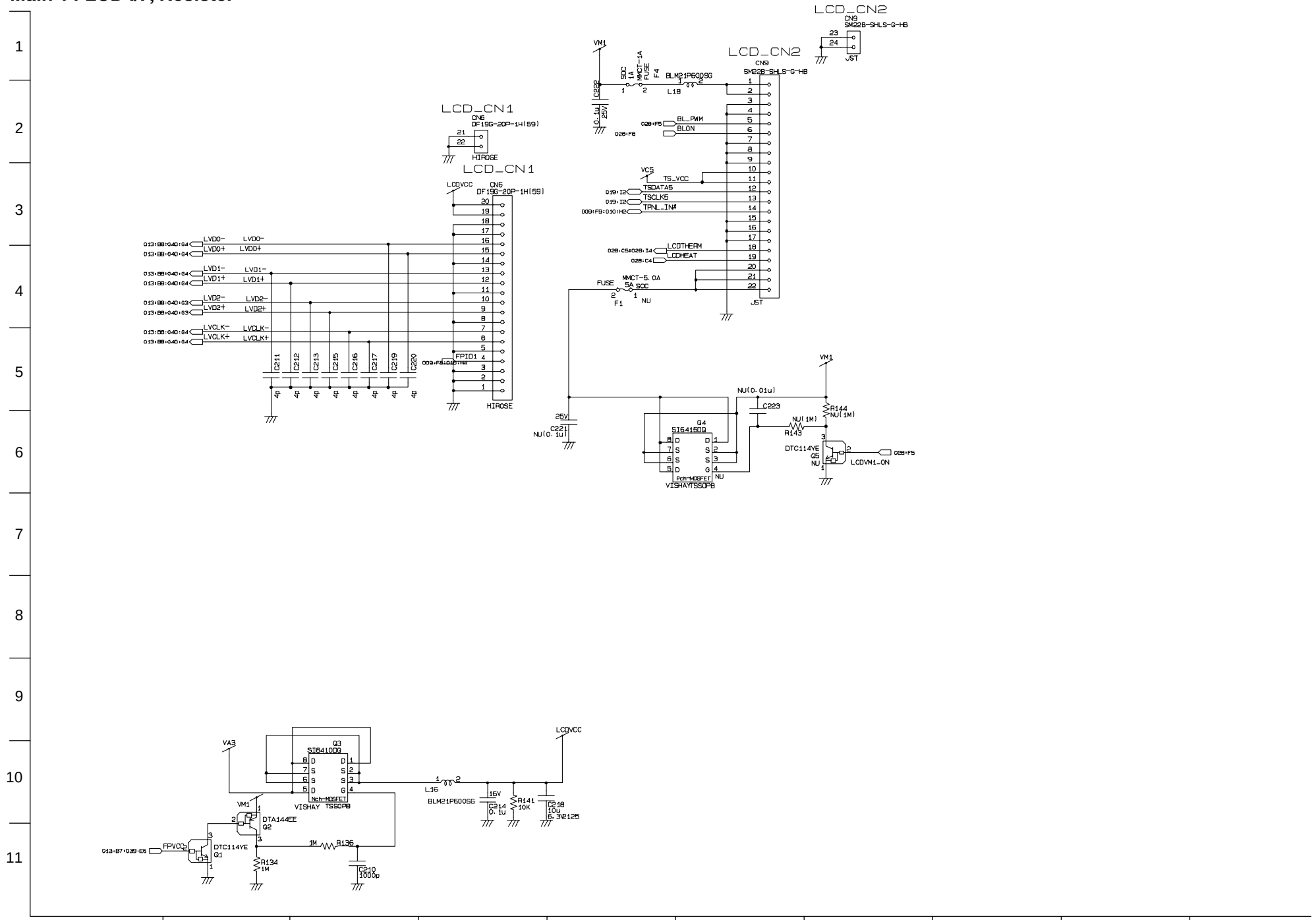
PEAK CURRENT
DVD:2.5A
CDD:1.4A
SUPER DISK:1.8A
FDD:0.9A

MP-CN:0.5A/PIN

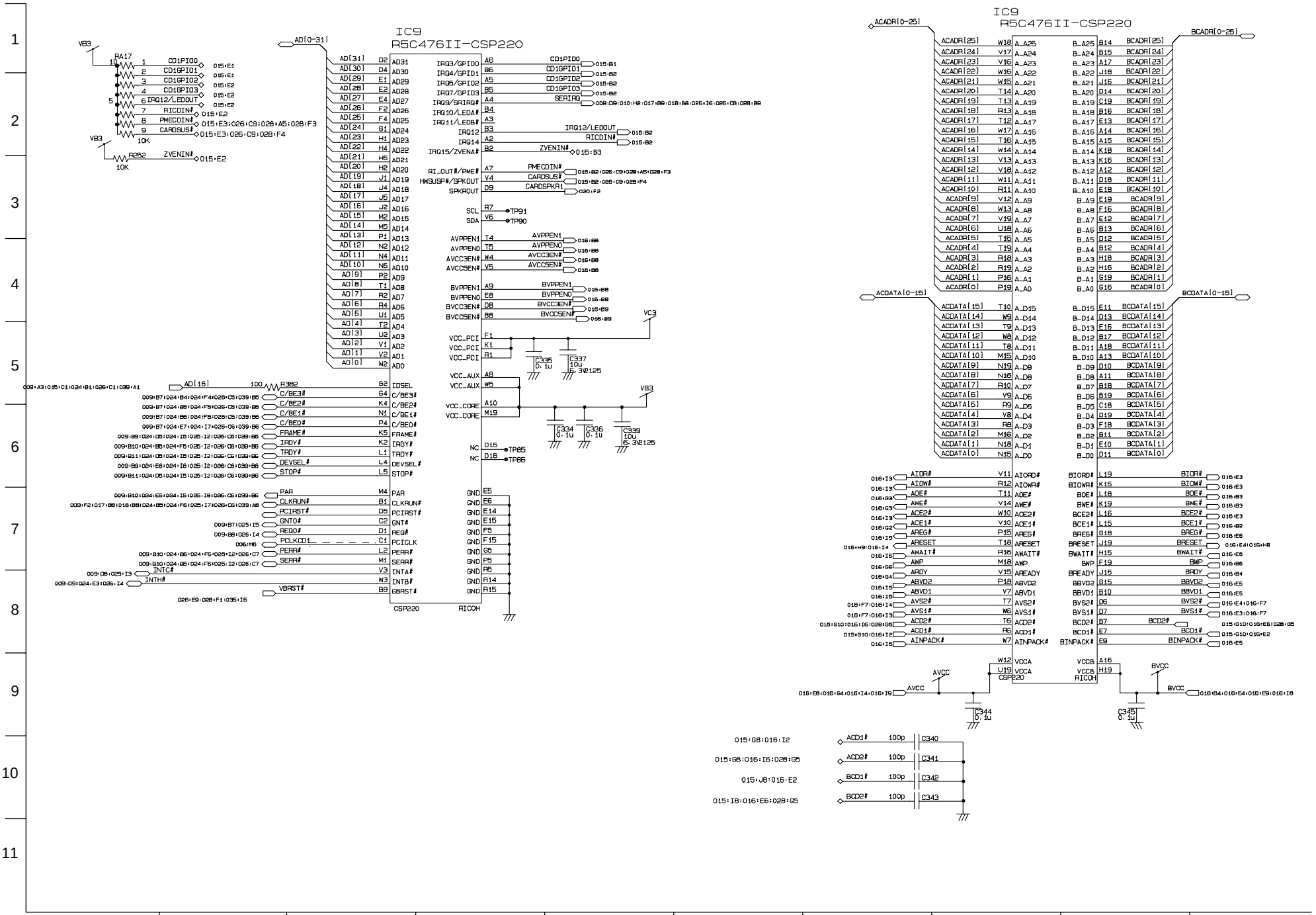
Main 13 VCH


VCH IC6
INTEL 196pinPBGA
SUSCLK
G_AD[30]
R609 10K
R130 NU(750) 0.5%
R603 NU(620) 0.5%
INT VGA:0/EXT VGA:NU
DVOFLD
DVOHSYNC
DVOVSYNC
DVOBLANK#
DVOCLK
DVOCLK#
DVOD[0-11]
I2CCK
I2CDA
CLKVCH
FPVCC
FPBACK
PCIRST#
R125 75 0.5%
R126 15 0.5%
R124 0
R127 150
R128 150
R129 39
R309 10K
C191 NU
C192 10u 6.3V1125
C209 0.1u
C149 10u 6.3V1125
C194 C195 C196 C197 C198 C199 C200 C201 C202 C203 C204 C205 C206 C207 C208 0.1u
C193 0.1u
C141 10u 6.3V1125
R131 2K 0.5%
R132 2K 0.5%
BLM11A121S L15
LCD_VREF
PLL_Vcc
PLL_Vss
LVDSpll_Vcc
LVDSpll_Vss
LVDSDC_Vcc
LVDSDC_Vss
Vcc_1.8
Vcc_3.3
Vss

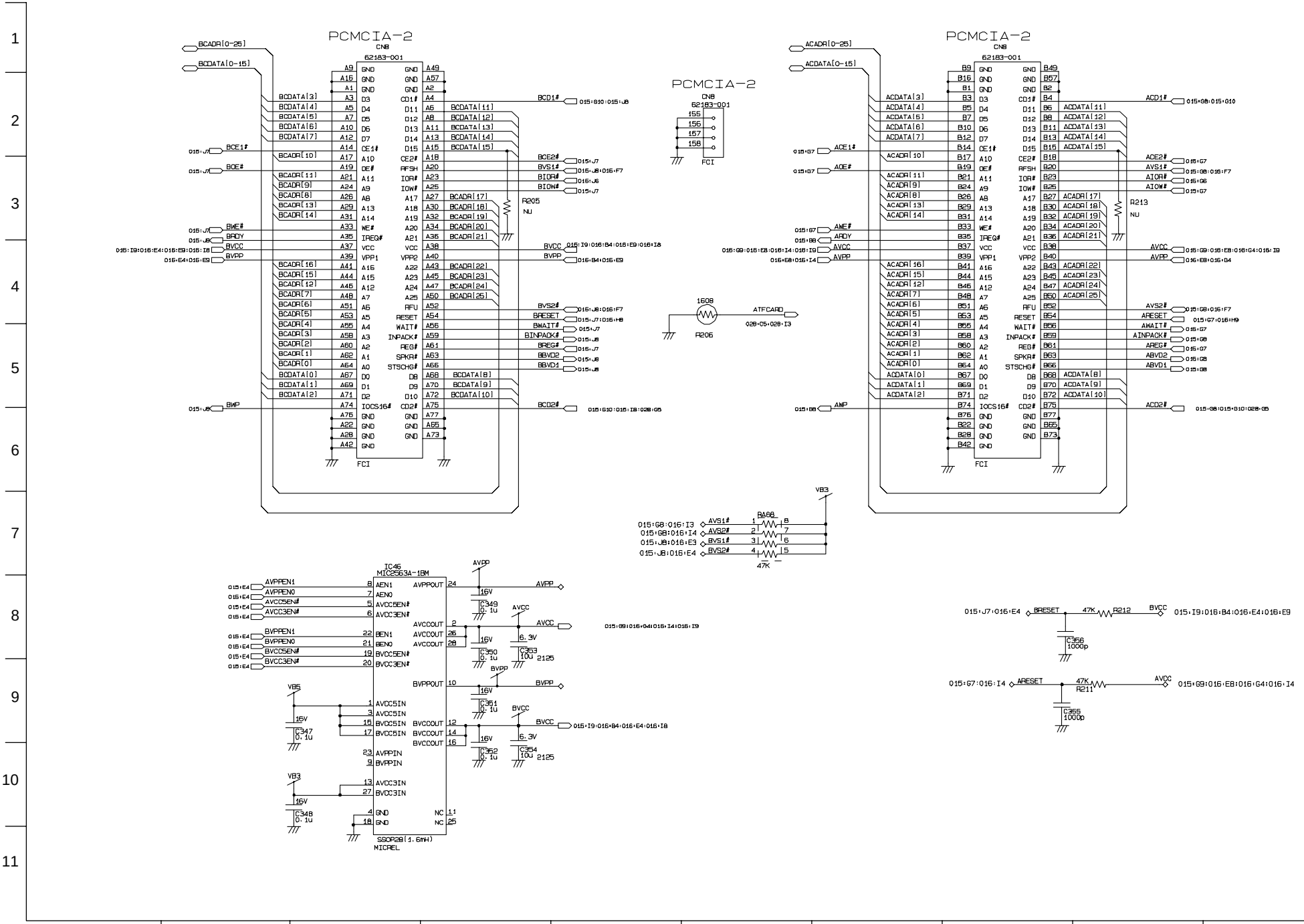
Main 14 LCD I/F, Resister



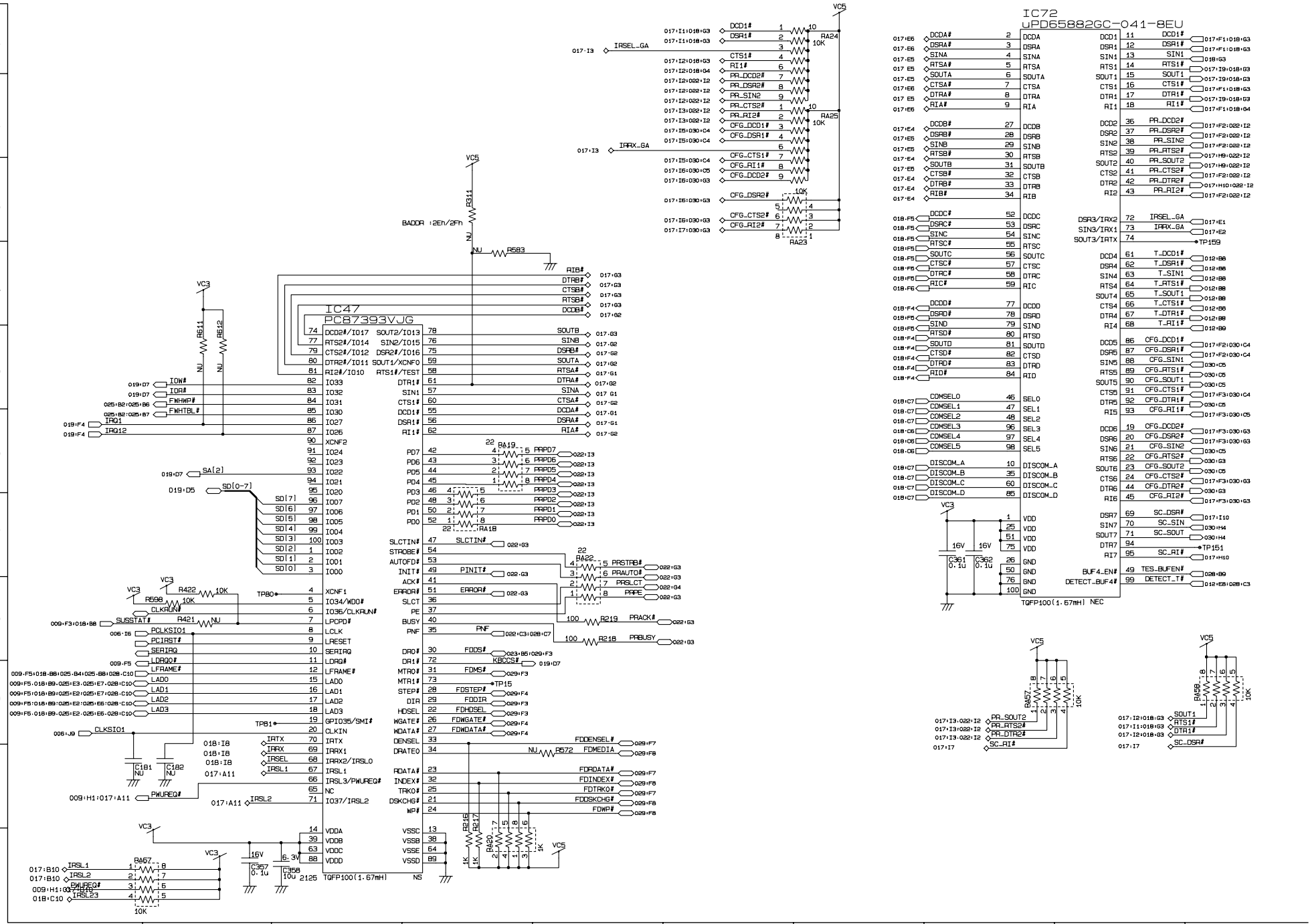
Main 15 PCIC-2Slot



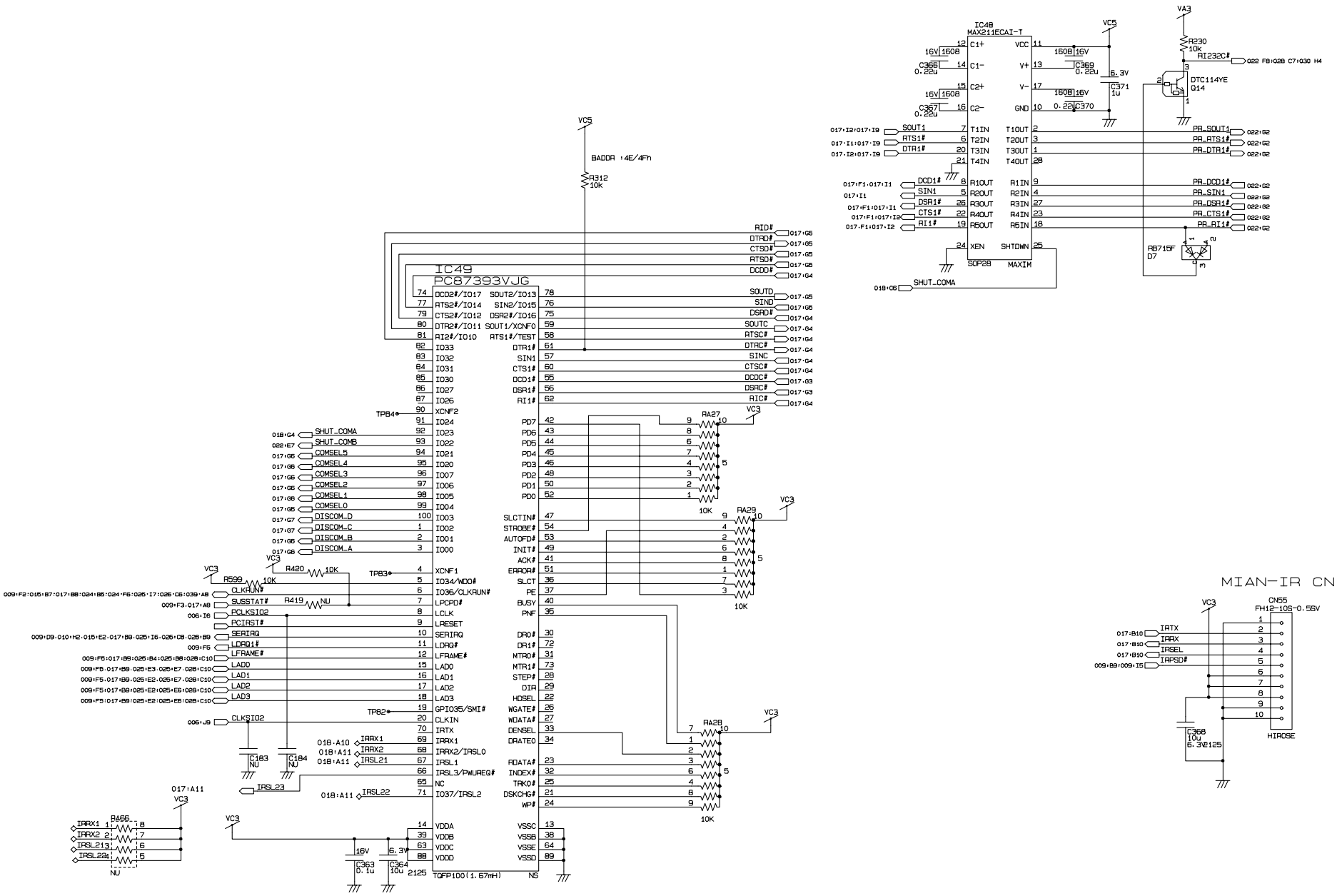
Main 16 PCMCIA-CN 2Slot



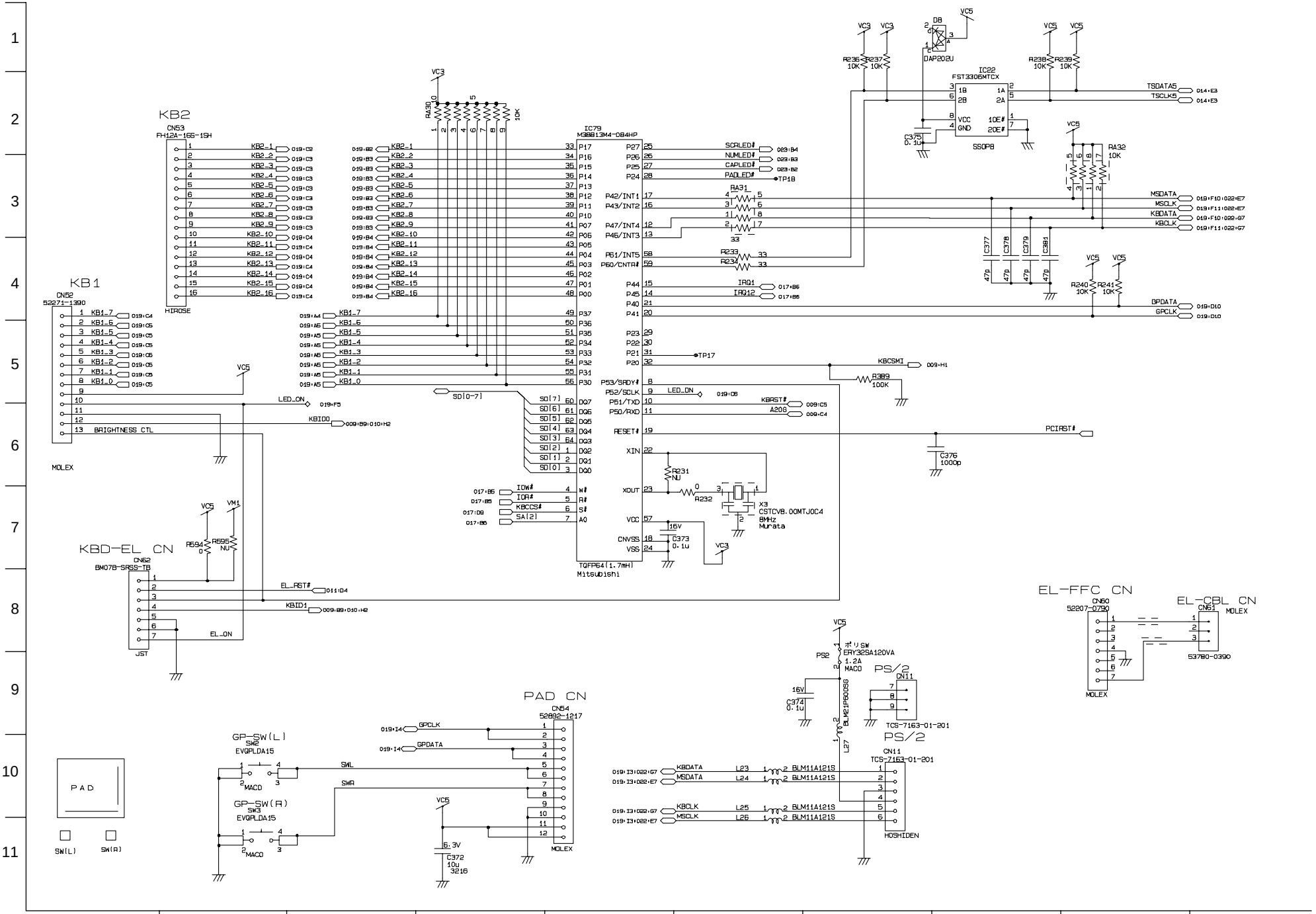
Main 17 Super-I/O-1, Comsel GA



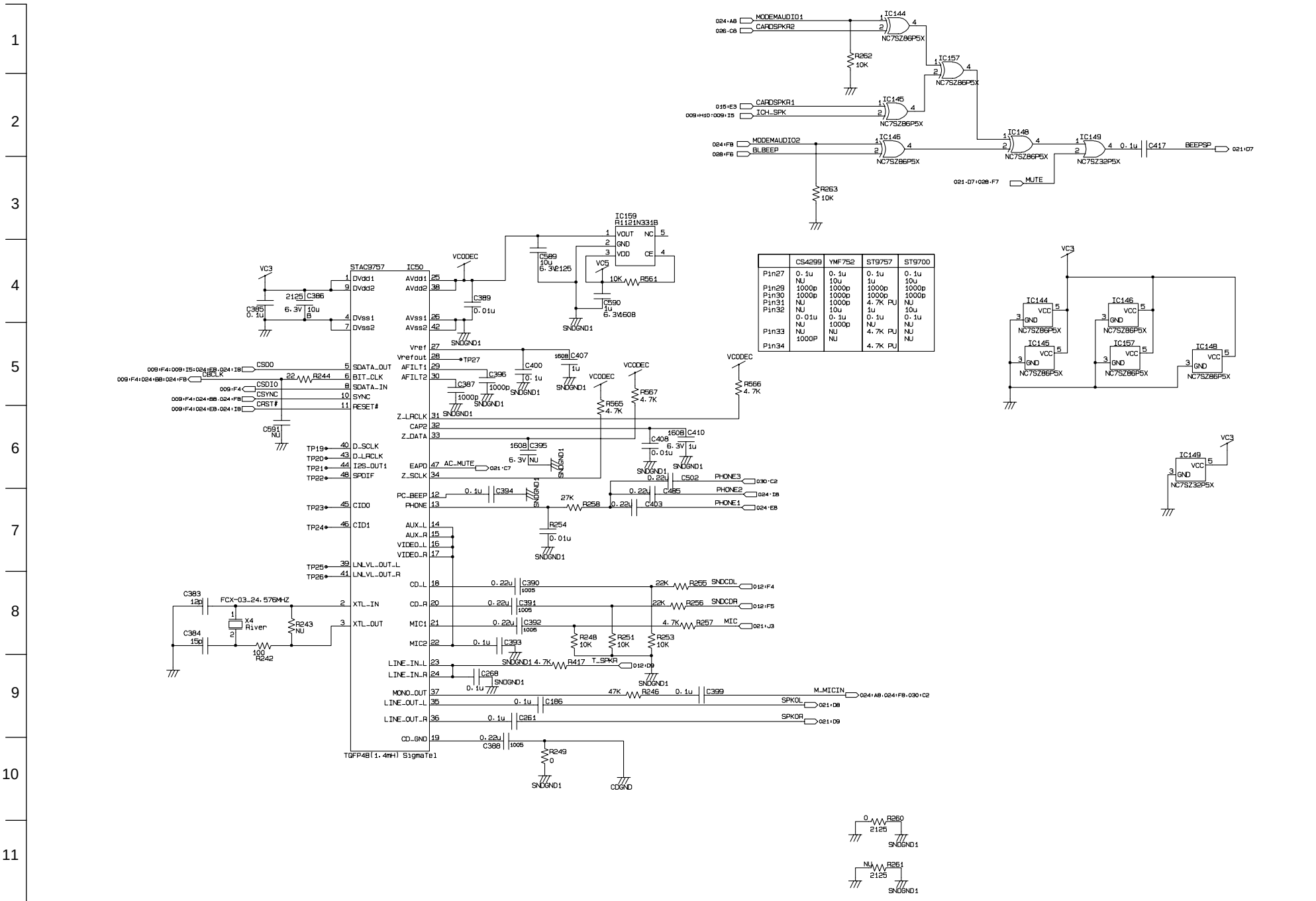
Main 18 S-I/0-2, IRDA, BUF



Main 19 KBC, KB Pad CN

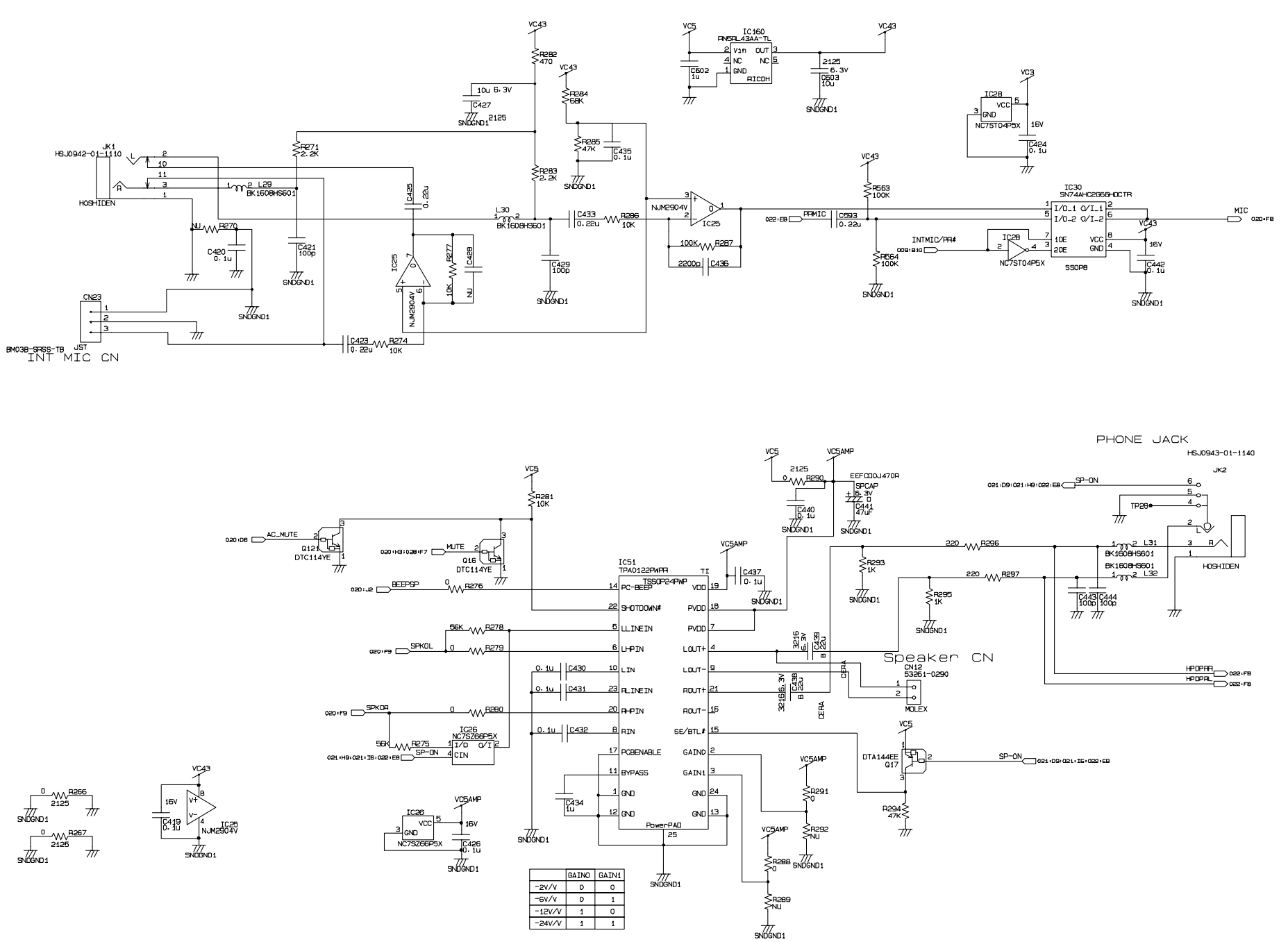


Main 20 Sound IC

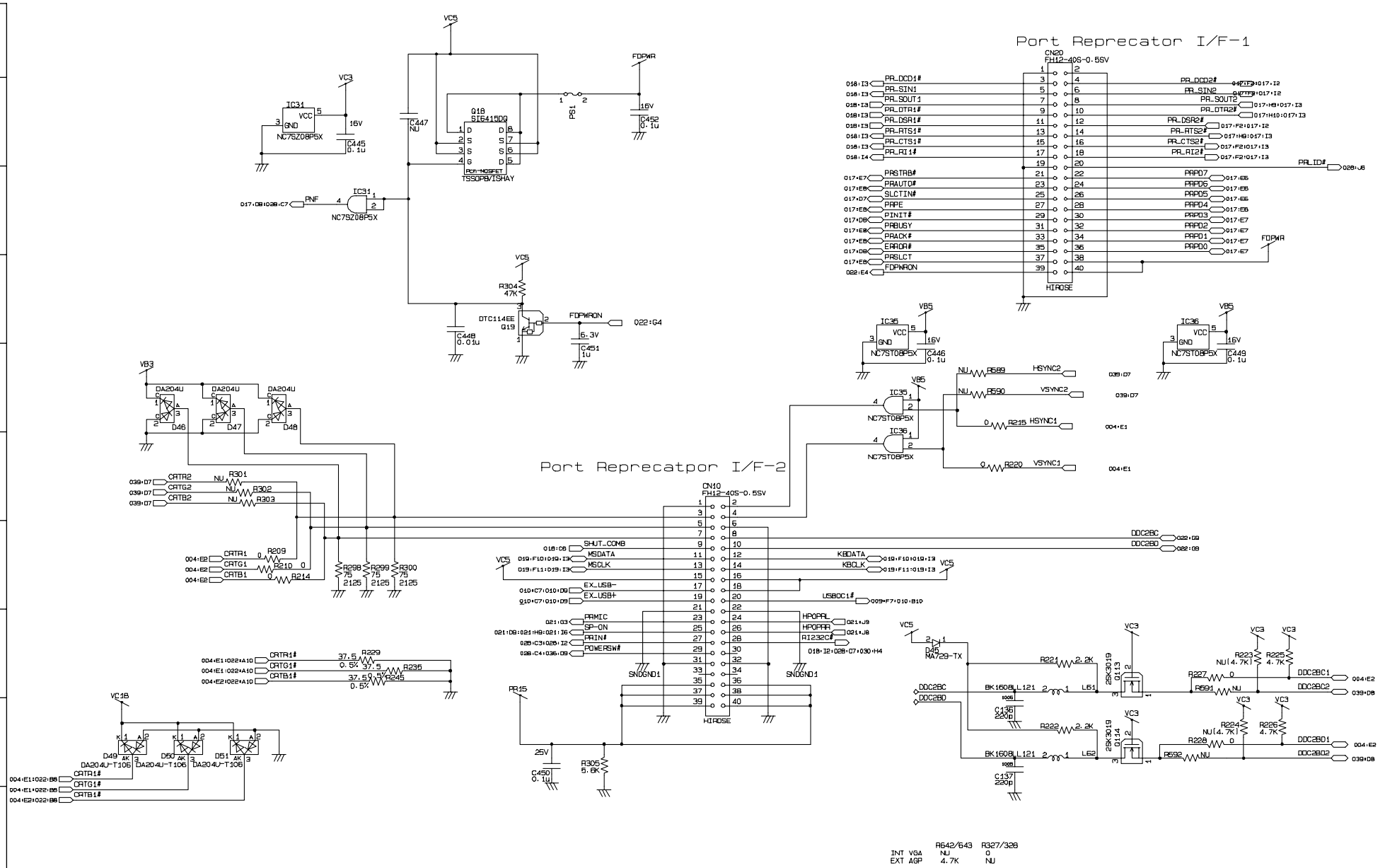


	CS4299	YMF752	ST9757	ST9700
Pin27	0.1u	0.1u	0.1u	0.1u
	NU	10u	1u	10u
Pin29	1000p	1000p	1000p	1000p
Pin30	1000p	1000p	1000p	1000p
Pin31	NU	1000p	4.7K PU	NU
Pin32	NU	10u	1u	10u
	0.01u	0.1u	0.1u	0.1u
	NU	1000p	NU	NU
Pin33	NU	NU	4.7K PU	NU
	1000P	NU		NU
Pin34			4.7K PU	

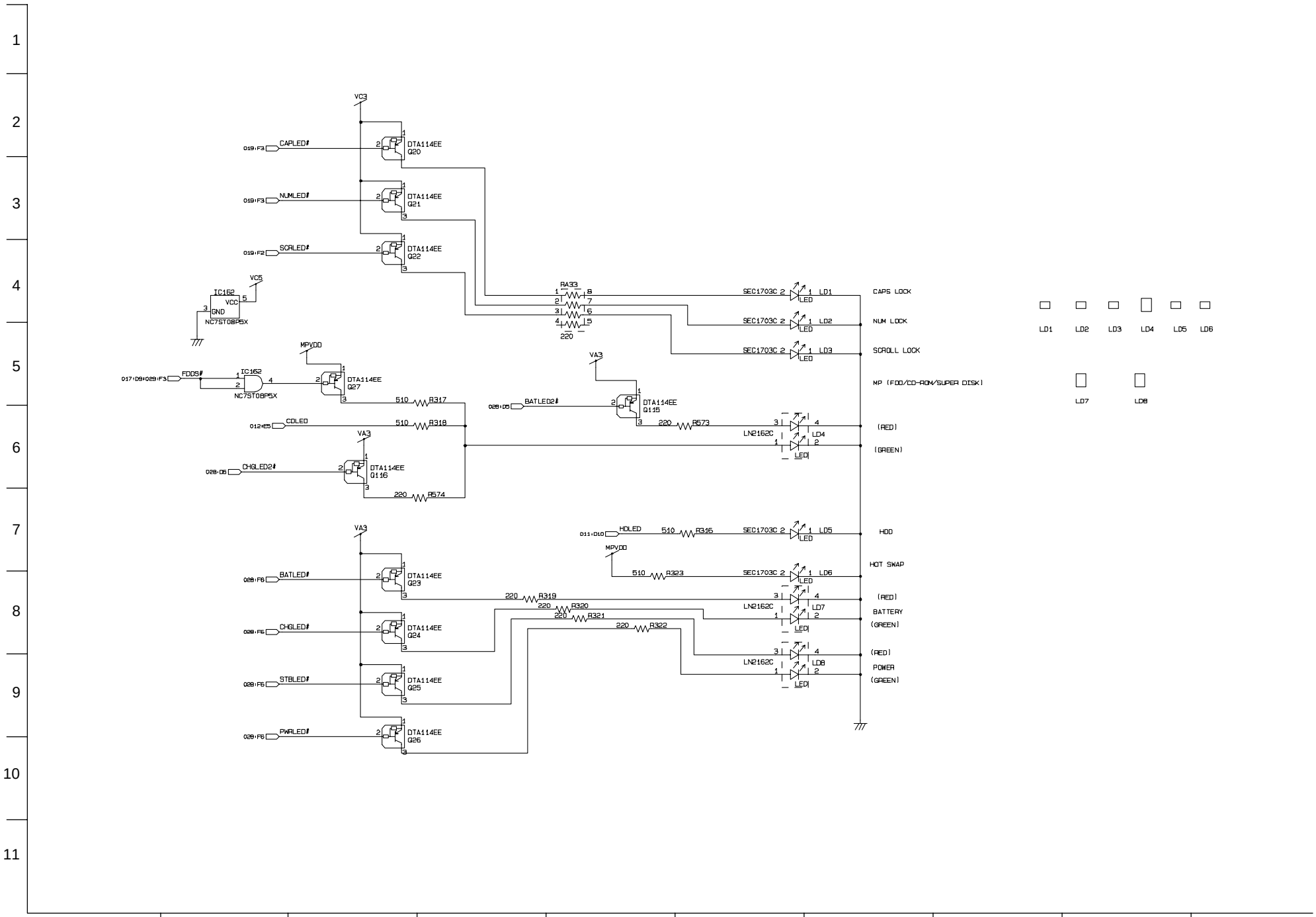
Main 21 Soundamp, Mic SPK



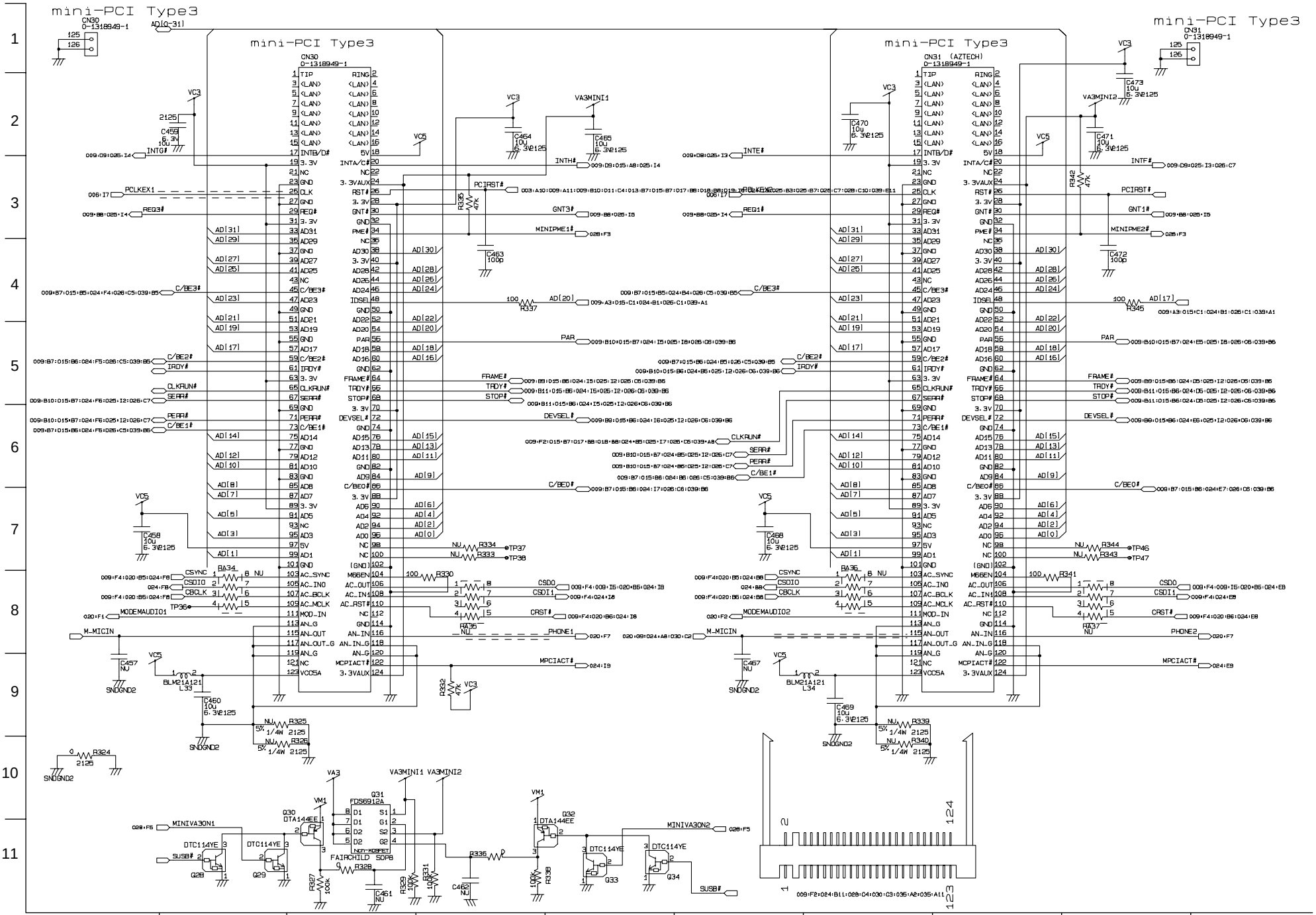
Main 22 Ext CN



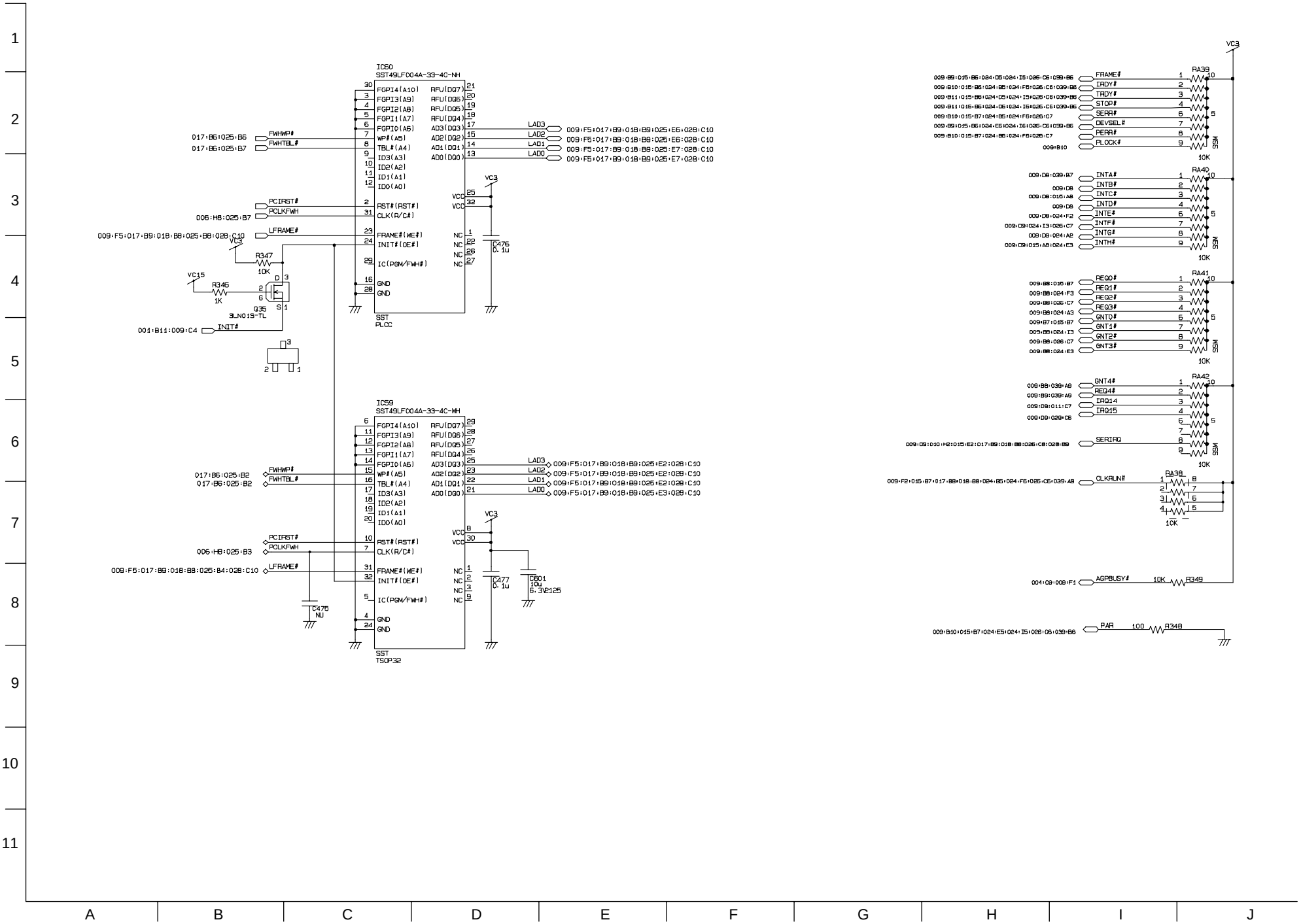
Main 23 LED


VC3
CAPLED#
NUMLED#
SCRLED#
DTA114EE
Q20
Q21
Q22
IC162
VCC
GND
NC7ST08P5X
VC5
RA33
220
SEC1703C
LED
LD1
LD2
LD3
CAPS LOCK
NUM LOCK
SCROLL LOCK
MPVDD
FDDS#
Q27
510
R317
CDLED
R318
CHGLED2#
Q116
220
R574
VA3
BATLED2#
Q115
R573
LN2162C
LD4
(RED)
(GREEN)
MP (FDD/CD-ROM/SUPER DISK)
LD7
LD8
HDLED
R316
LD5
HDD
R323
LD6
HOT SWAP
BATLED#
Q23
R319
R320
R321
R322
CHGLED#
Q24
STBLED#
Q25
PWRLED#
Q26
(RED)
BATTERY
(GREEN)
POWER
(GREEN)
LD1
LD2
LD3
LD4
LD5
LD6

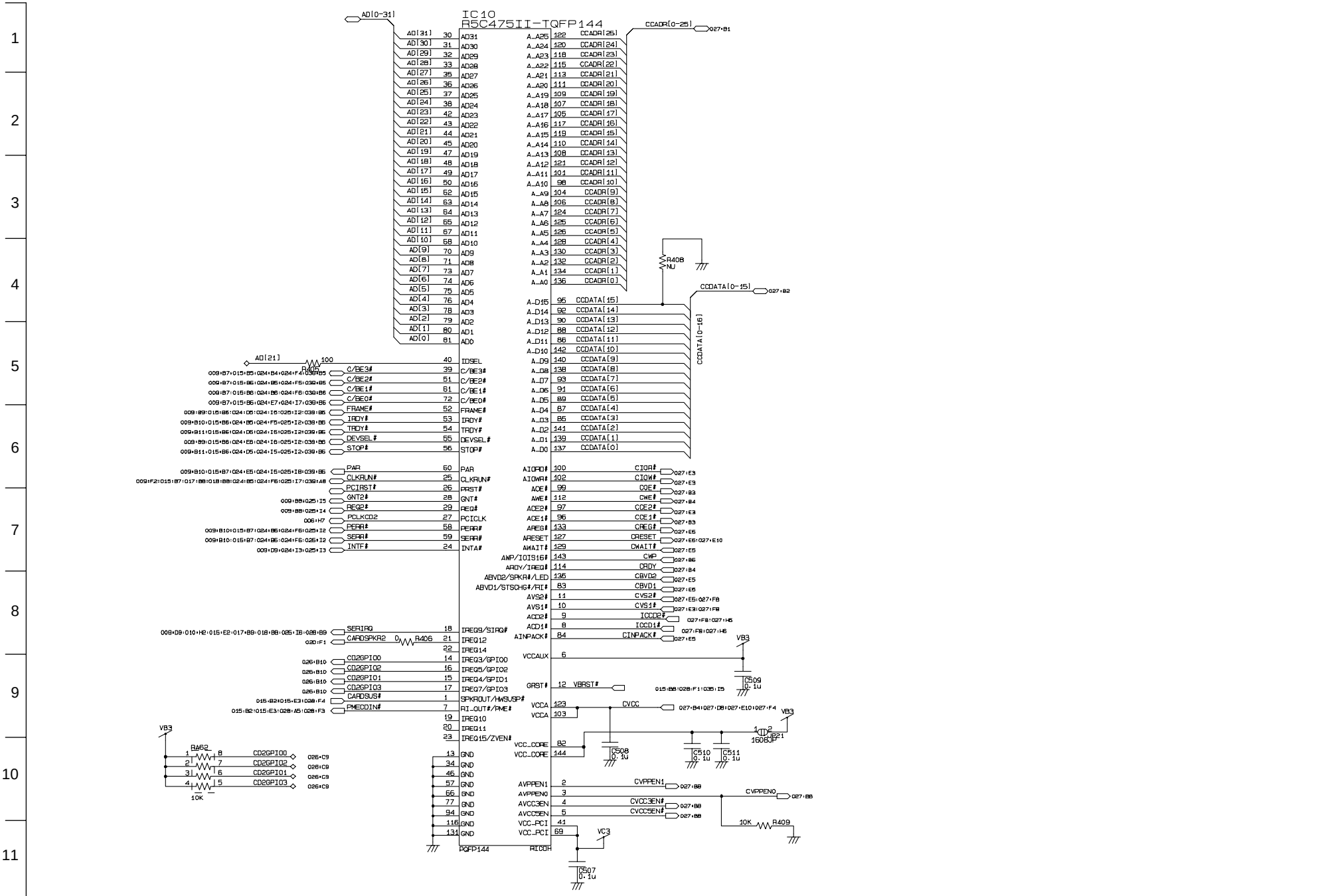
Main 24 Mini PCI



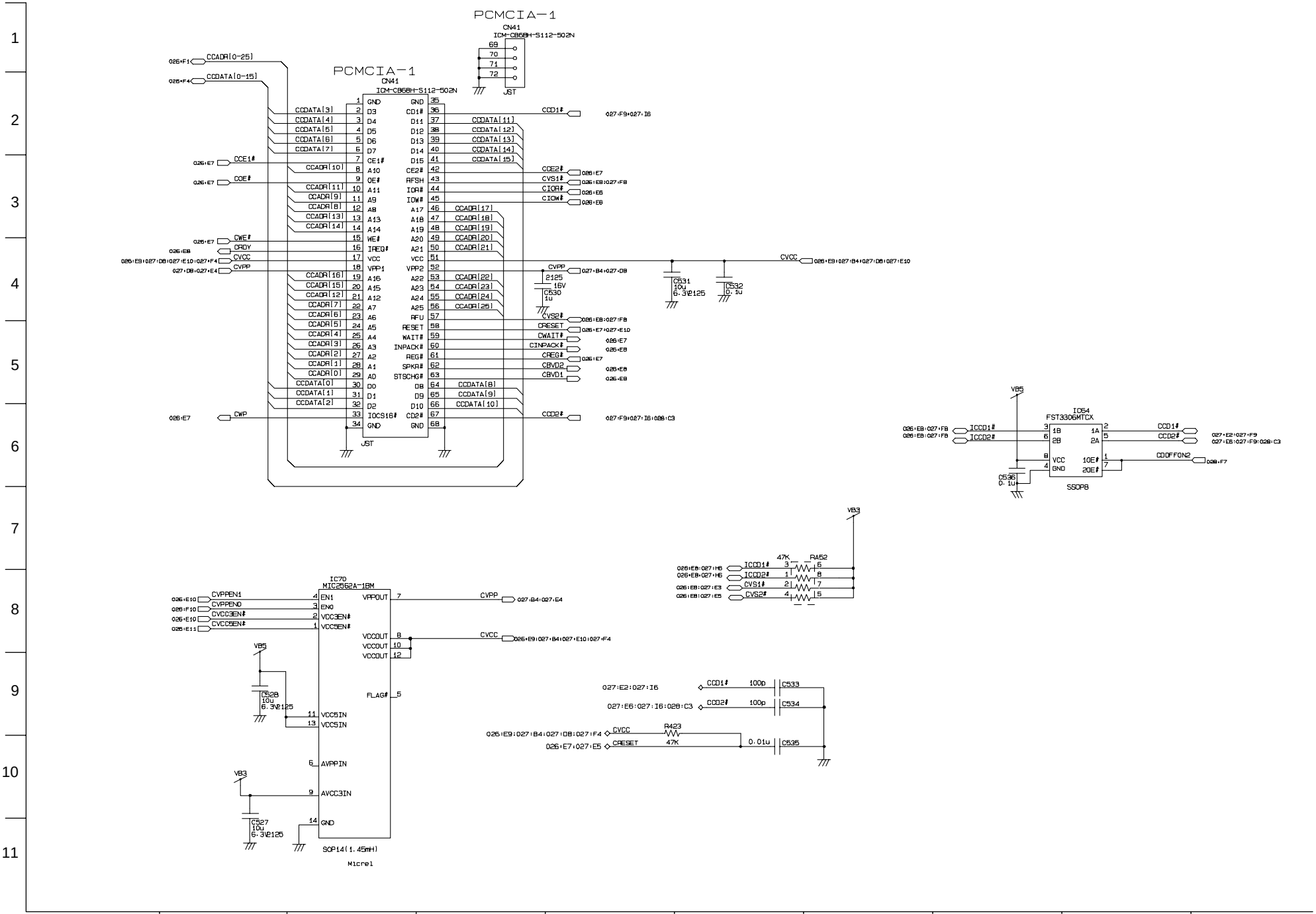
Main 25 Bios, Resistor



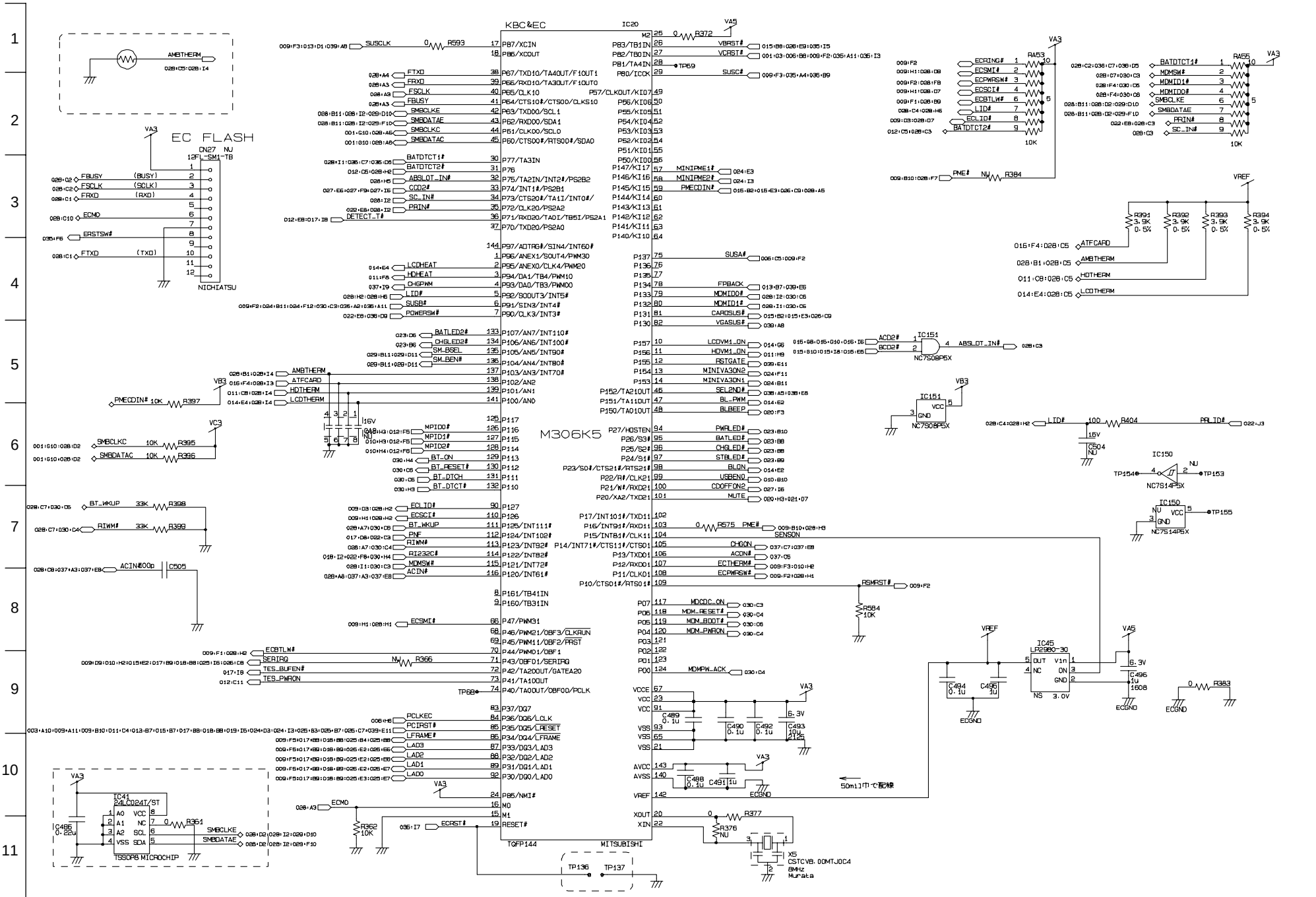
Main 26 PCIC 1Slot(1394)



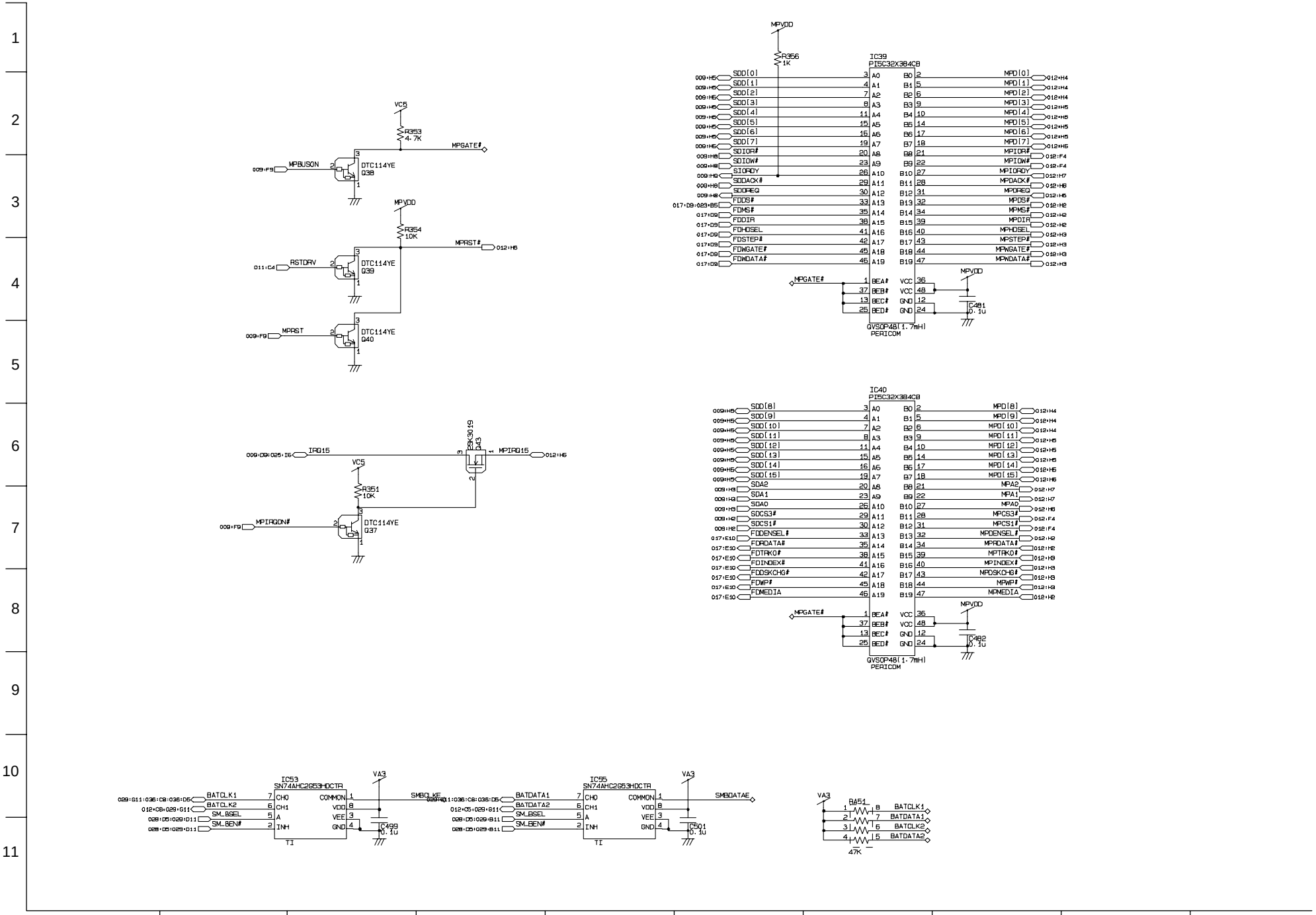
Main 27 PCMCIA 1Slot



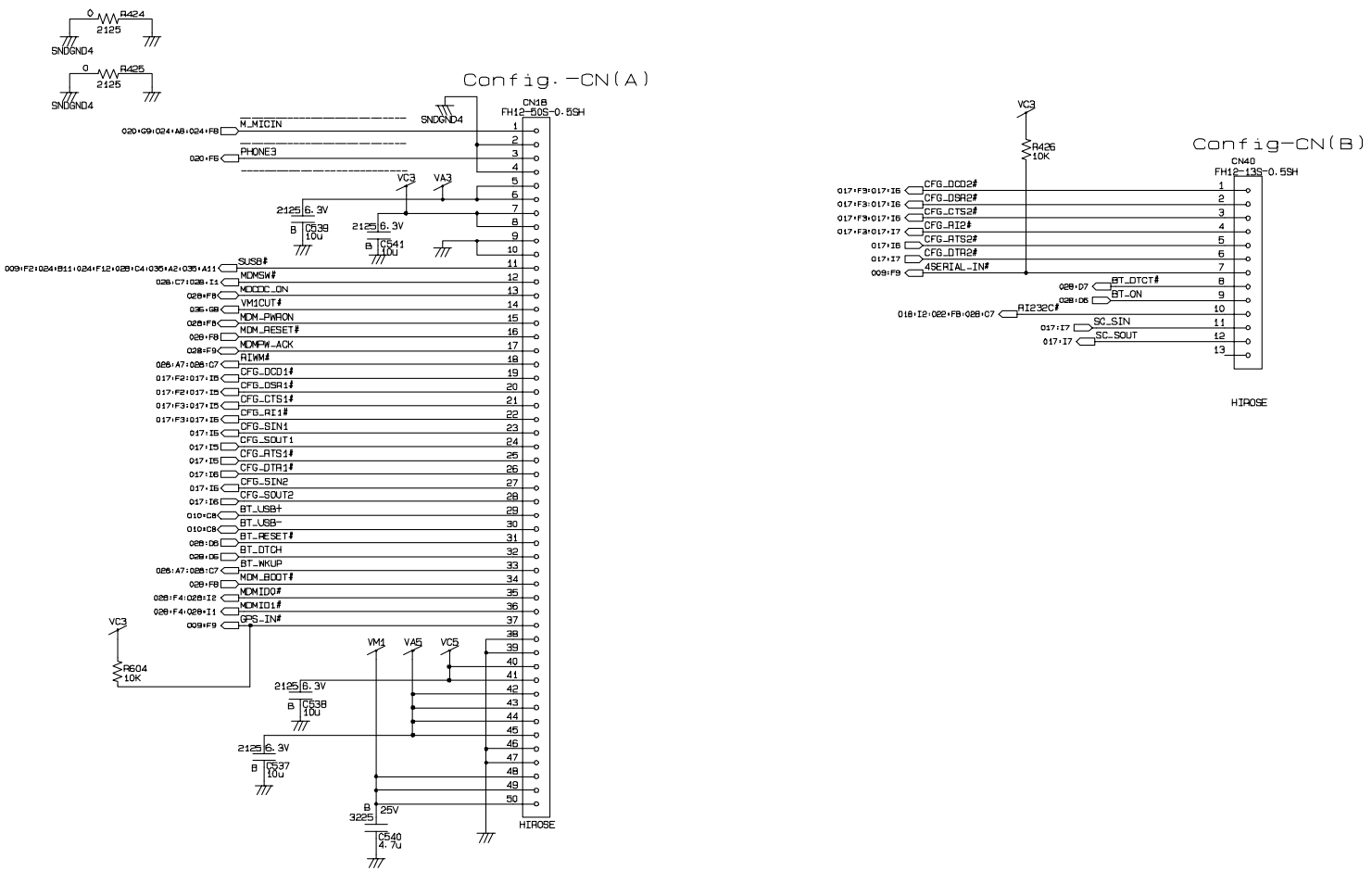
Main 28 PME&KBC, LID



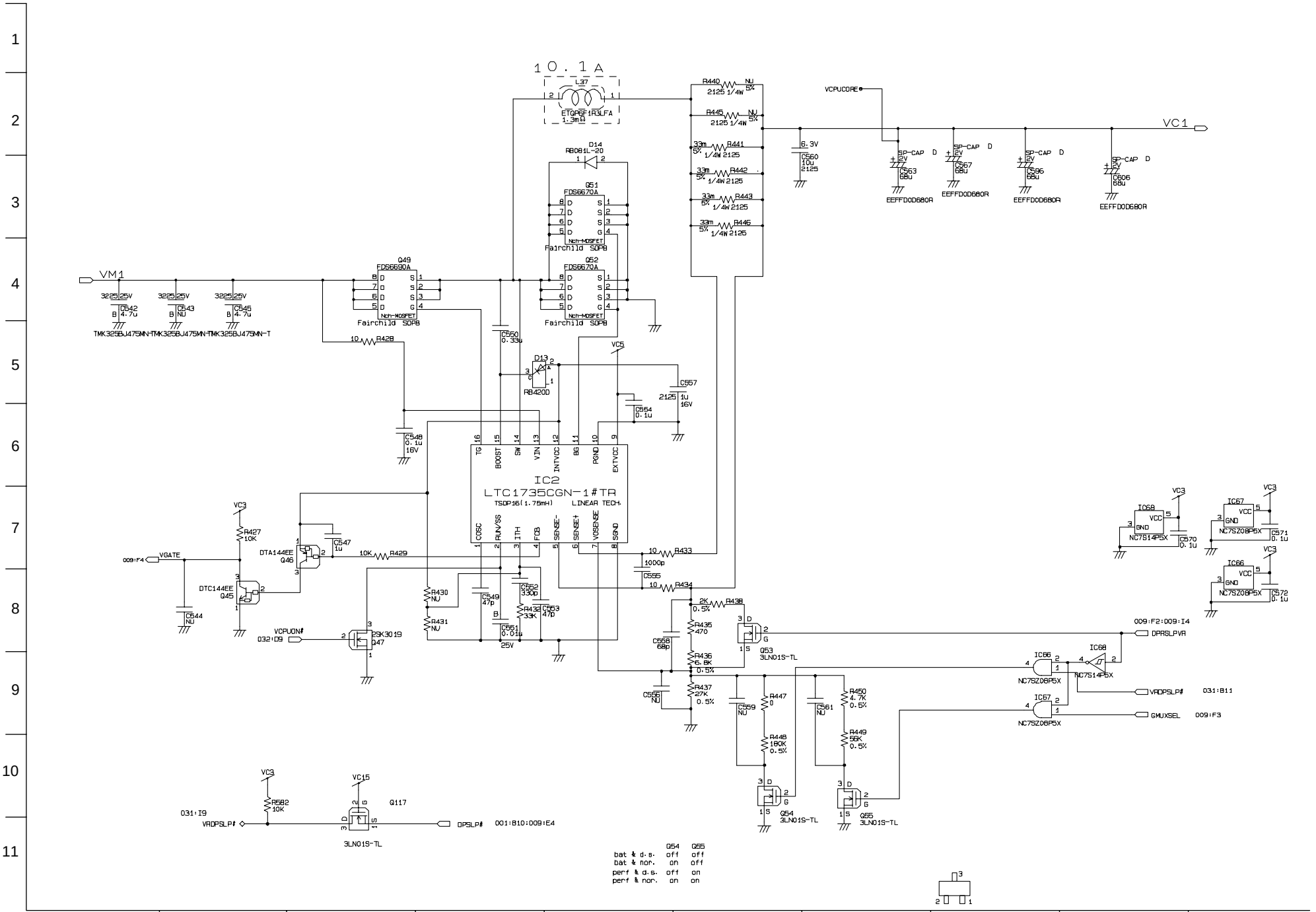
Main 29 Hot Swap



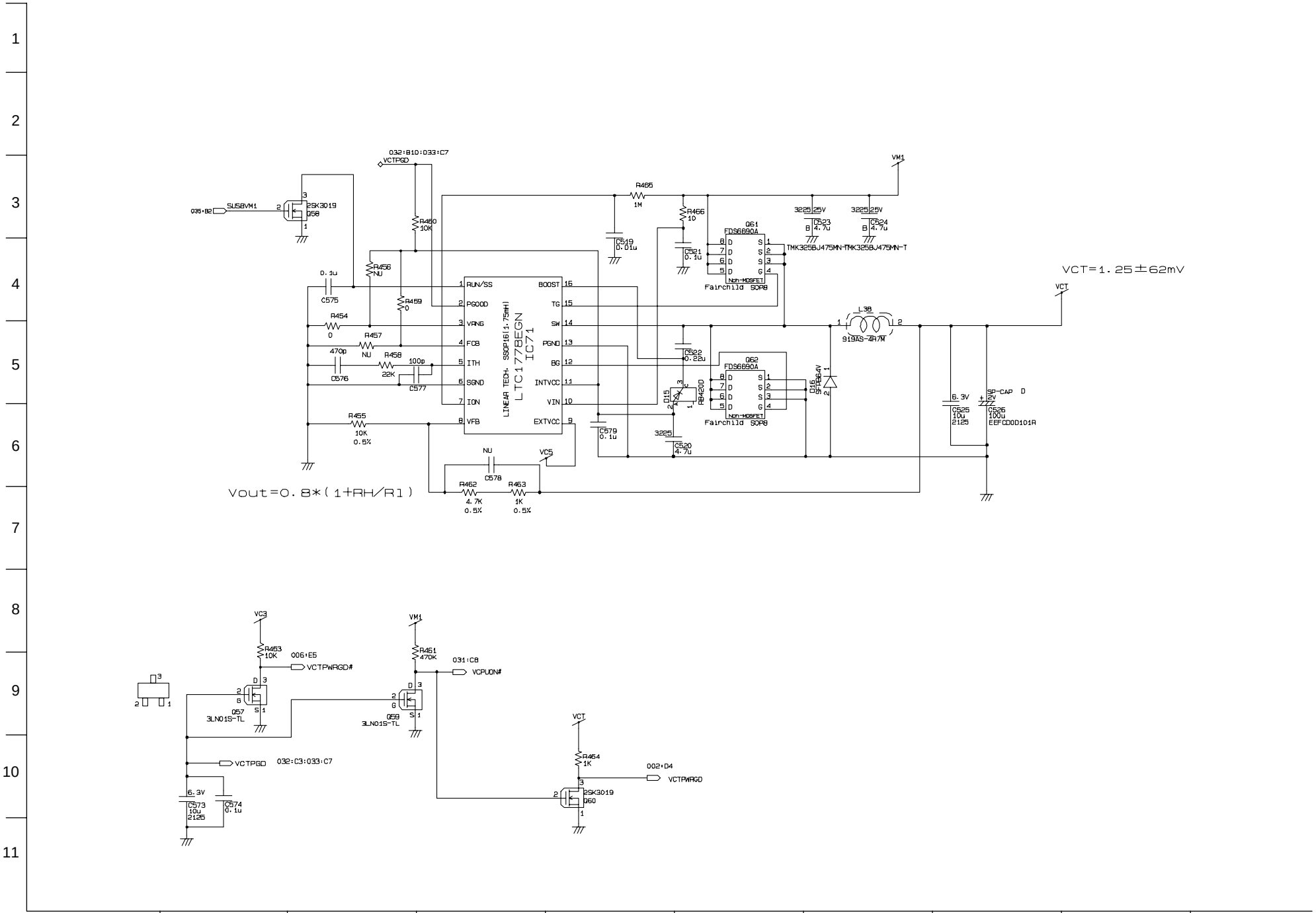
Main 30 Wireless module CN



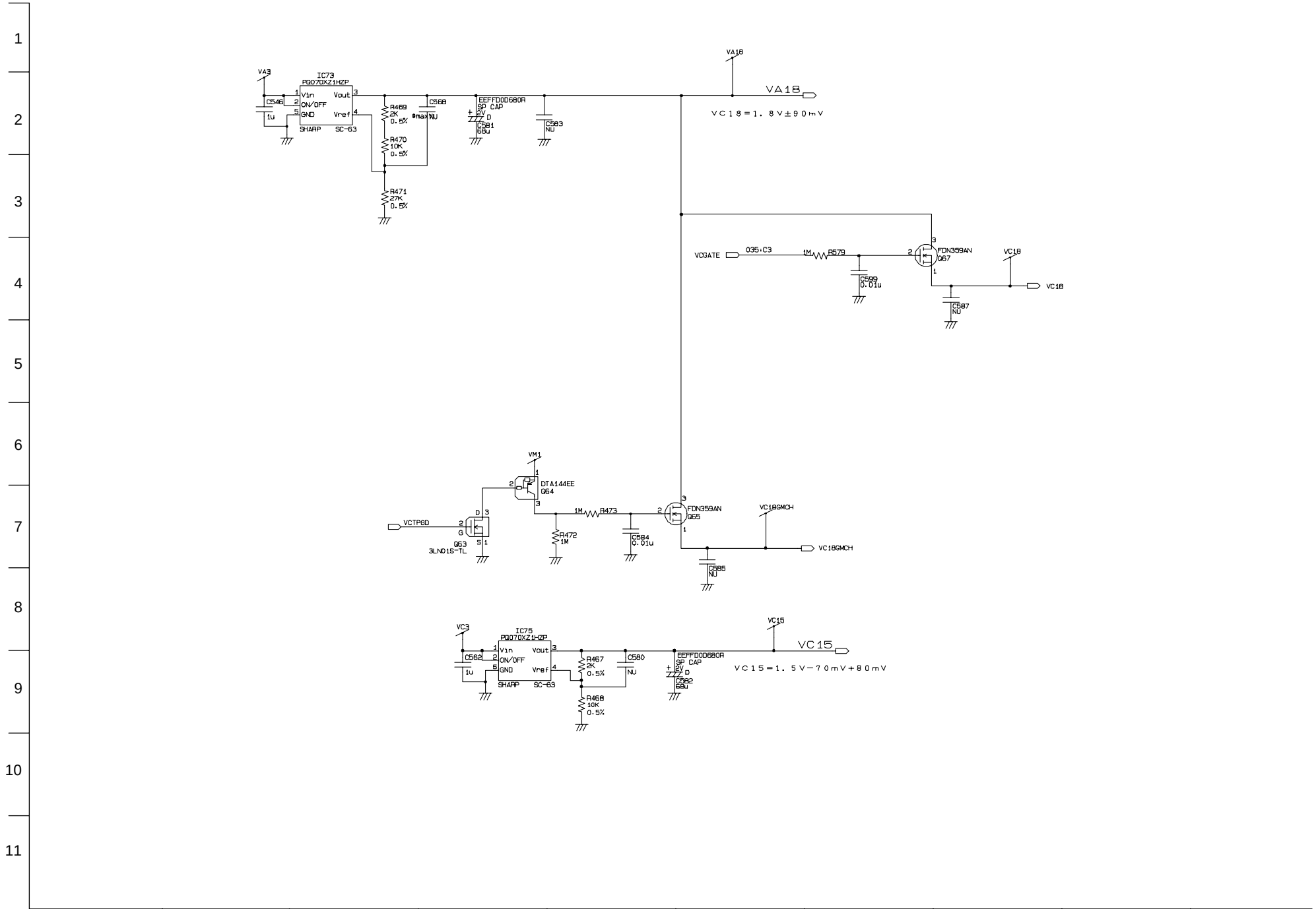
Main 31 VC1


10.1A
L37
ETQP6F1R3LFA
1.3mM
R440 NU 2125 1/4W 5%
R445 NU 2125 1/4W 5%
R441 33m 5% 1/4W 2125
R442 33m 5% 1/4W 2125
R443 33m 5% 1/4W 2125
R446 33m 5% 1/4W 2125
VCPUCORE
VC1
6.3V
C560 10u 2125
SP-CAP D 2V C563 680u EEFFD0D680R
SP-CAP D 2V C567 680u EEFFD0D680R
SP-CAP D 2V C596 680u EEFFD0D680R
SP-CAP D 2V C606 680u EEFFD0D680R
D14 RB081L-20
Q51 FDS6670A Nch-MOSFET Fairchild SOP8
Q52 FDS6670A Nch-MOSFET Fairchild SOP8
Q49 FDS6690A Nch-MOSFET Fairchild SOP8
VM1
3225 25V C542 4.7u
3225 25V C543 NU
3225 25V C545 4.7u
TMK325BJ475MN-TMK325BJ475MN-TMK325BJ475MN-T
R428 10
C550 0.33u
D13 RB420D
VC5
C557 2125 1u 16V
C564 0.1u
C548 0.1u 16V
IC2
LTC1735CGN-1#TR
TSOP16(1.75mH) LINEAR TECH.
TG BOOST SW VIN INTVCC BG PGND EXTVCC
COSC RUN/SS ITH FCB SENSE- SENSE+ VOSENSE SGND
VC3
R427 10K
DTA144EE Q46
C547 1u
10K R429
VGATE
009:F4
DTC144EE Q45
C544 NU
R430 NU
R431 NU
C549 47p
C550 330p
R432 33K
C553 47p
C551 0.01u 25V
VCPUON#
032:D9
2SK3019 Q47
R433 10 1000p C555
R434 10
2K 0.5% R438
R435 470
R436 6.8K 0.5%
C558 68p
R437 27K 0.5%
C556 NU
C559 NU
C561 NU
R447 0
R448 180K 0.5%
R450 4.7K 0.5%
R449 56K 0.5%
Q53 2LN01S-TL
Q54 2LN01S-TL
Q55 2LN01S-TL
009:F2:009:I4
DPRSLPVR
IC66 NC7SZ08P5X
IC68 NC7S14P5X
VRDPSLP#
031:B11
IC67 NC7SZ08P5X
GMUXSEL
009:F3
IC68 NC7S14P5X C570 0.1u
IC67 NC7SZ08P5X C571 0.1u
IC66 NC7SZ08P5X C572 0.1u
VC15
R582 10K
Q117 2LN01S-TL
031:I9
VRDPSLP#
DPSLP#
001:B10:009:E4
Q54 Q55
bat & d.s. off off
bat & nor. on off
perf & d.s. off on
perf & nor. on on

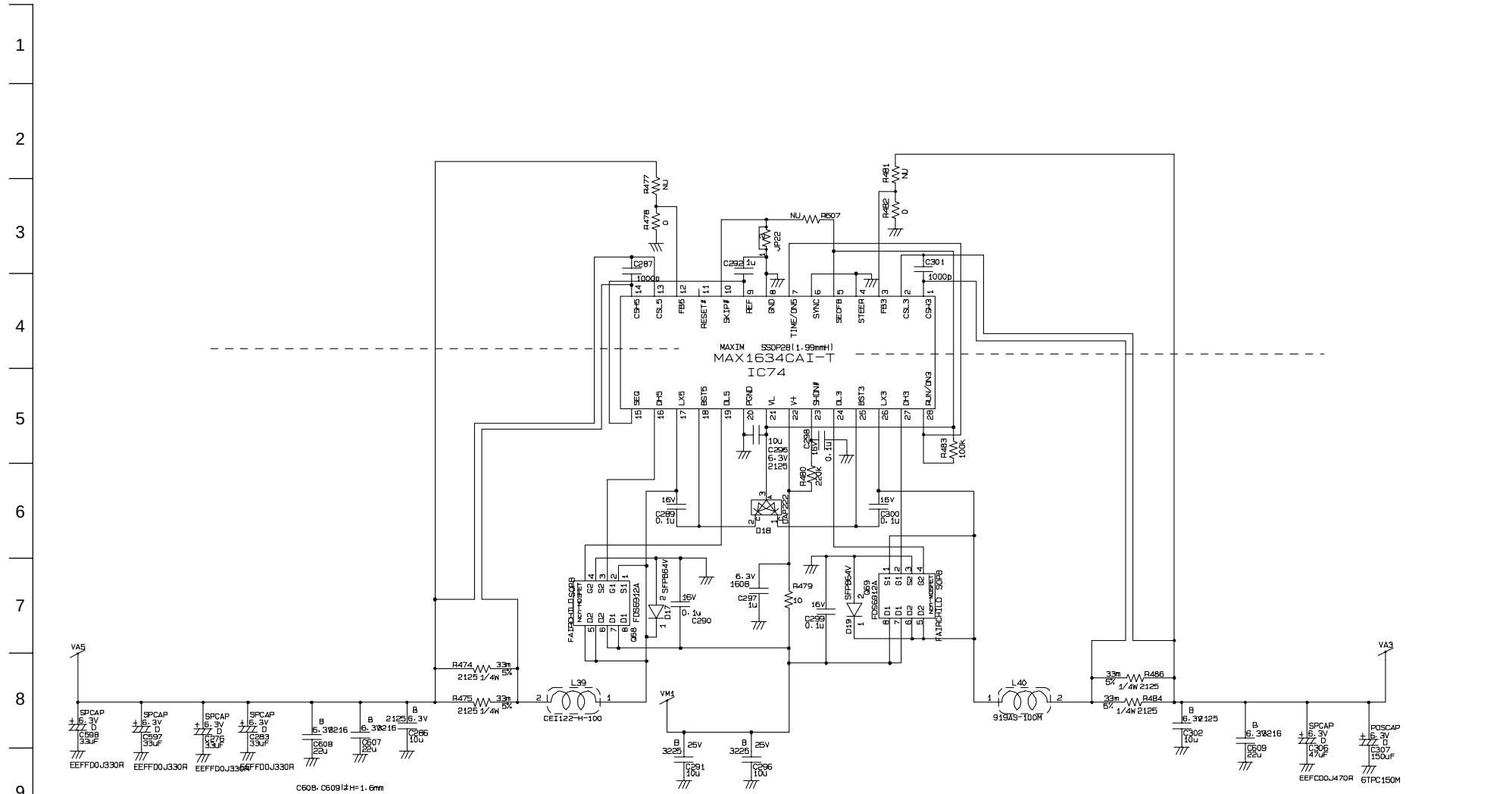
Main 32 VCT


032:B10:D33:C7
VCTPGD
VM1
R465
1M
R466
10
3225.25V
C523
4.7u
C524
4.7u
035:B2
SUSBVM1
2SK3019
Q58
R460
10K
C519
0.01u
C521
0.1u
Q61
FDS6690A
TMK325BJ475MN-TMK325BJ475MN-T
Non-MOSFET
Fairchild SOP8
VCT=1.25±62mV
VCT
0.1u
C575
R456
NU
R459
0
R454
0
R457
NU
470p
C576
R458
22K
100p
C577
RUN/SS
PGOOD
VRNG
FCB
ITH
SGND
ION
VFB
BOOST
TG
SW
PGND
BG
INTVCC
VIN
EXTVCC
LINEAR TECH. SSOP16(1.75MM)
LTC1778EGN
IC71
L38
919AS-4R7M
C522
0.22u
Q62
FDS6690A
D15
RB420D
D16
SF1B6.4V
C579
0.1u
3225
C520
4.7u
6.3V
C525
10u
2125
SP-CAP D
2V
C526
100u
EEFCD0D101R
R455
10K
0.5%
NU
C578
VC5
R462
4.7K
0.5%
R463
1K
0.5%
Vout=0.8*(1+RH/R1)
VC3
R453
10K
Q06:E5
VCTPWRGD#
VM1
R461
470K
031:C8
VCPUON#
Q57
3LN01S-TL
Q59
3LN01S-TL
VCTPGD
032:C3:033:C7
6.3V
C573
10u
2125
C574
0.1u
VCT
R454
1K
002:D4
VCTPWRGD
2SK3019
Q60

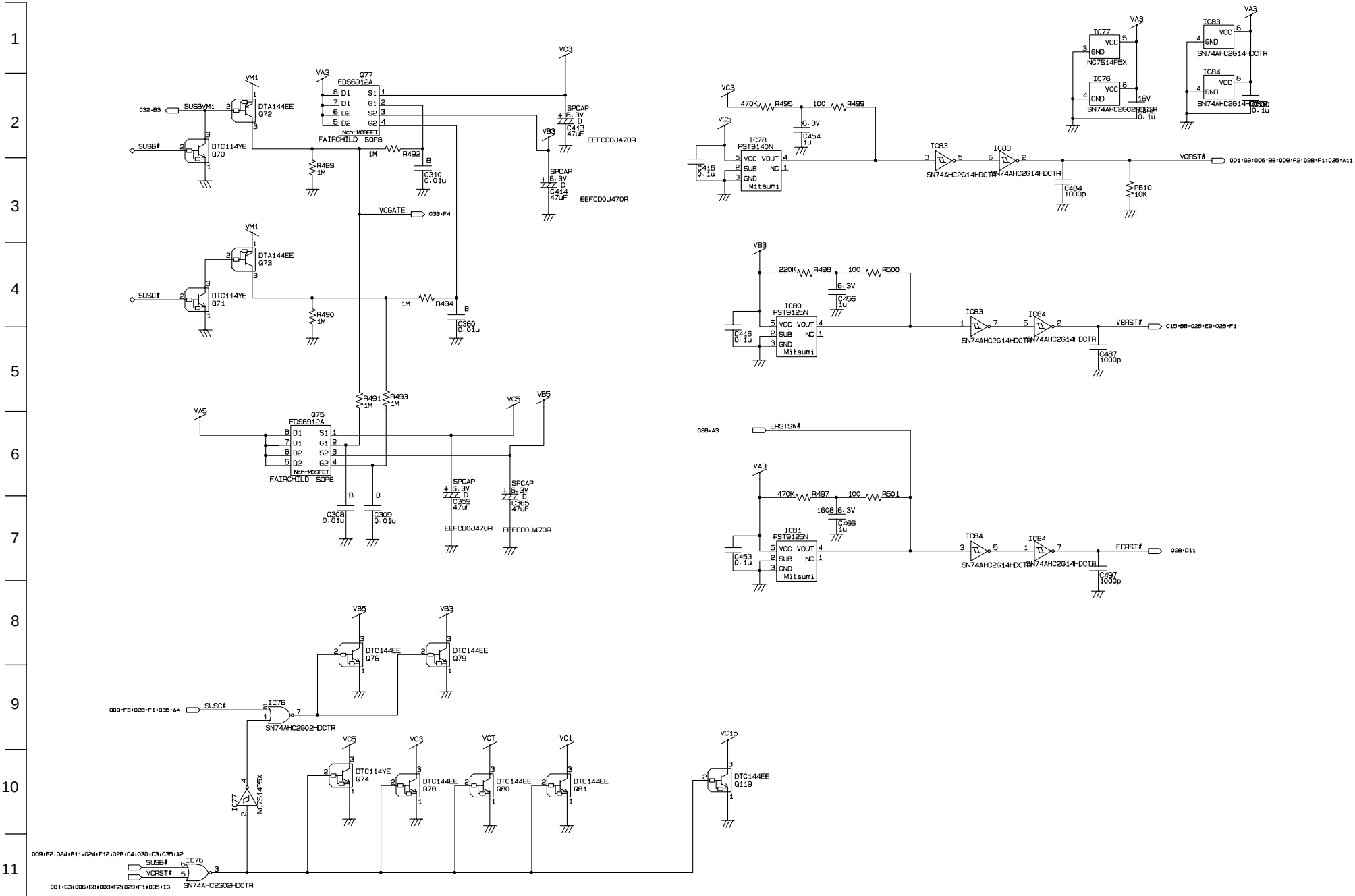
Main 33 VA18, VC15



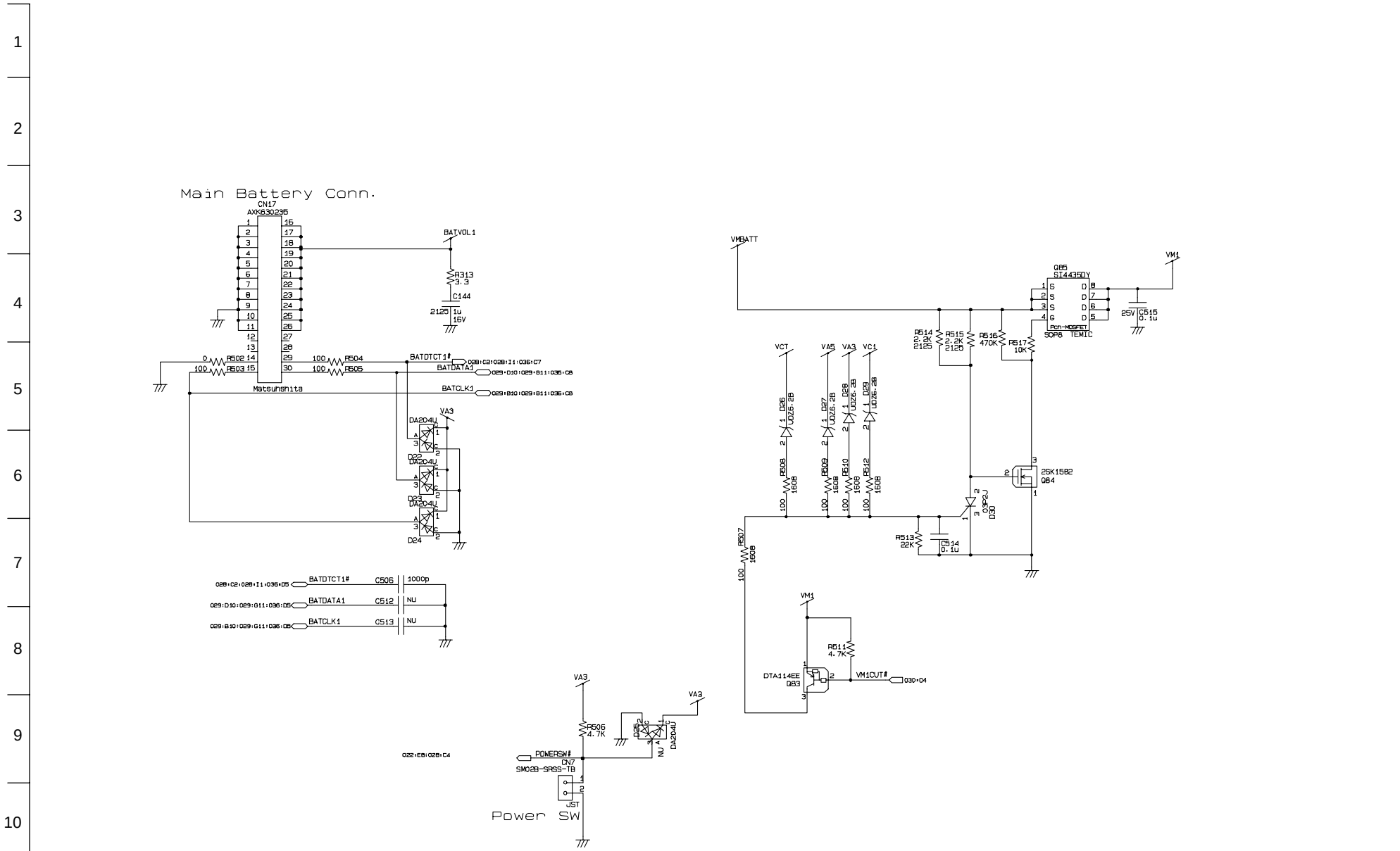
Main 34 VA3, VA5



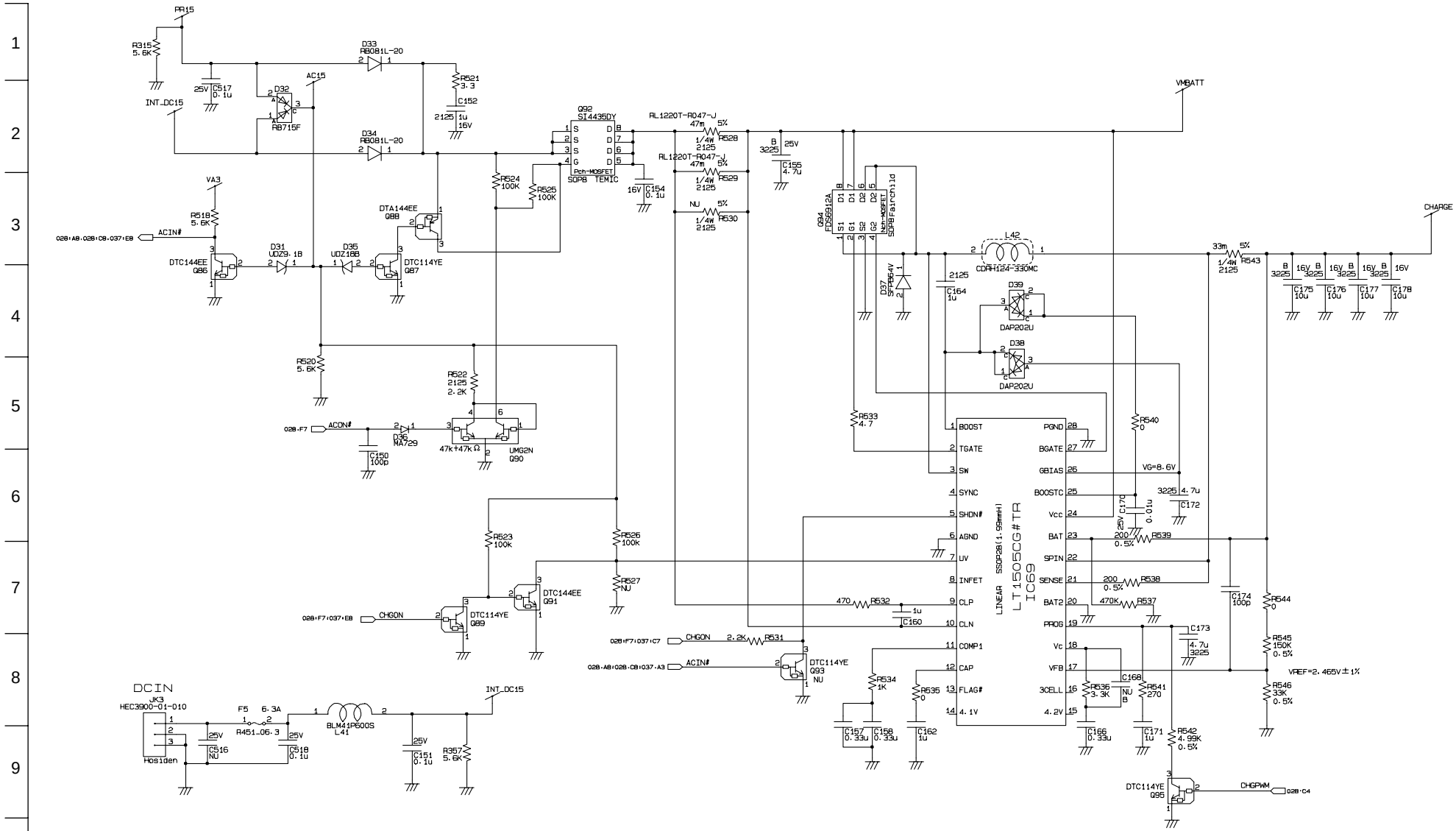
Main 35 VC3, VB3, VC5, VB5, Reset



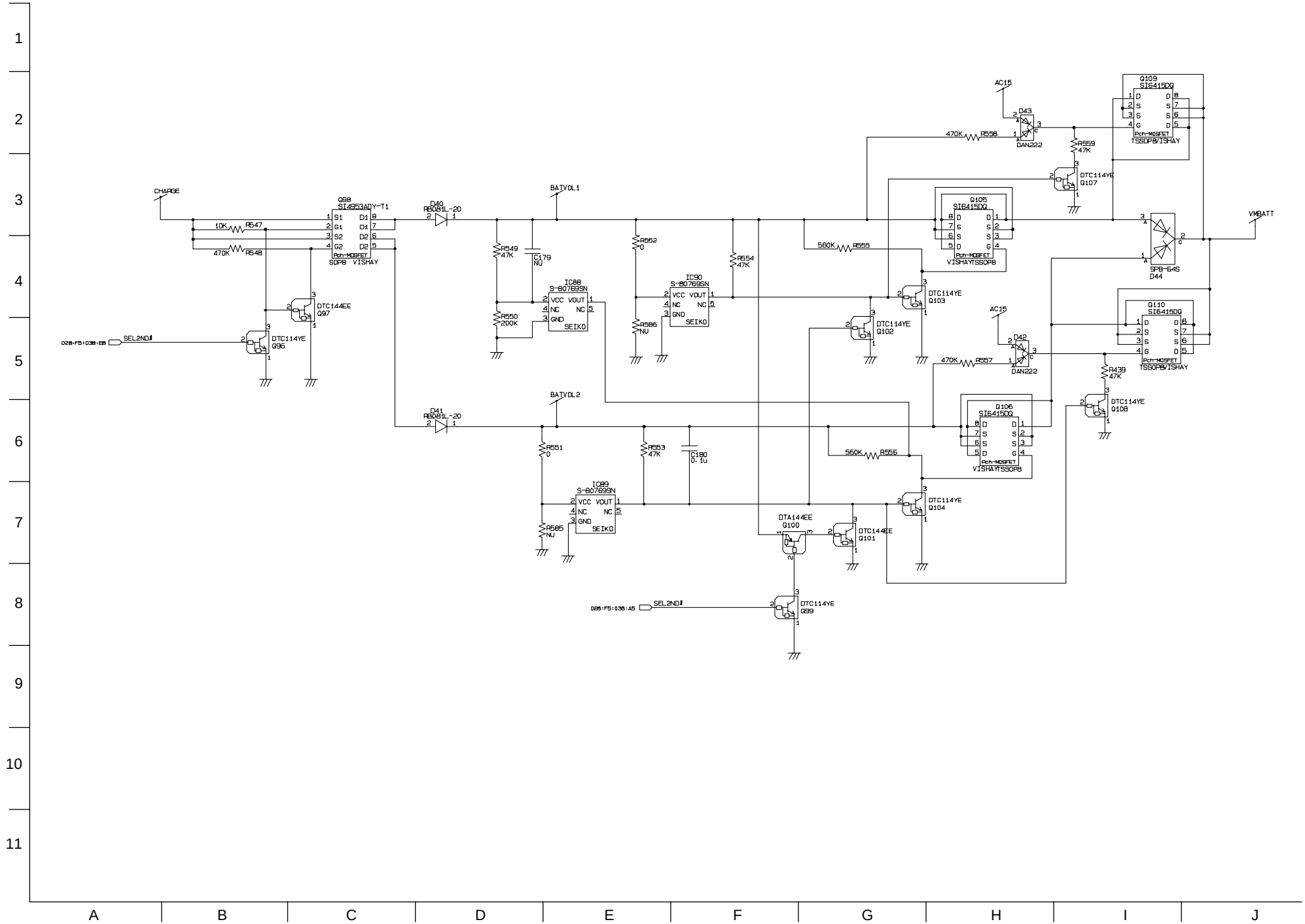
Main 36 DC-IN VM1 P-SW



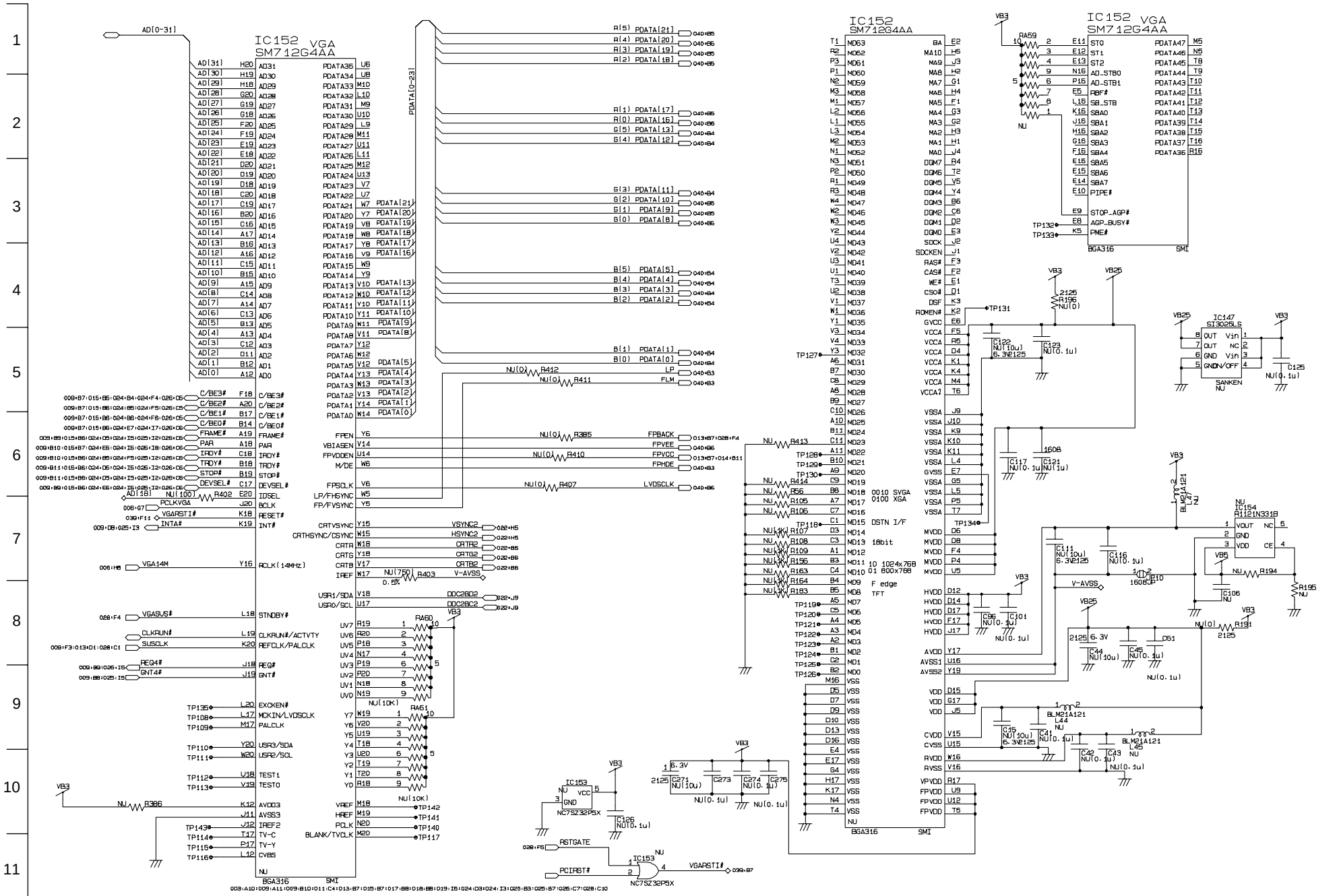
Main 37 Charger



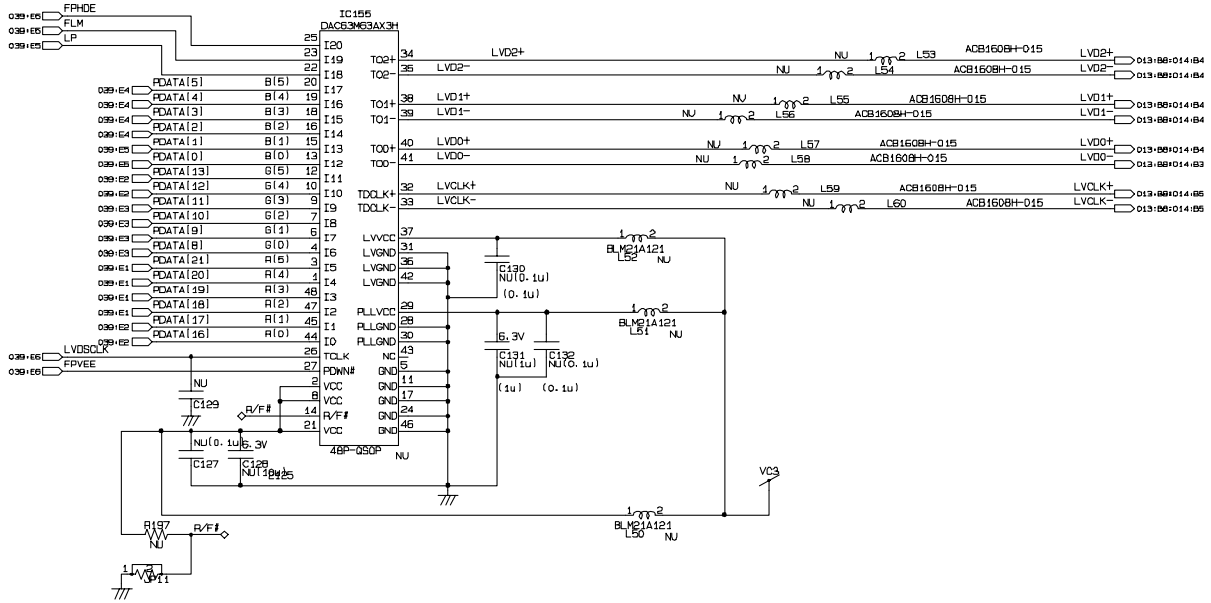
Main 38 2nd BAT CTL



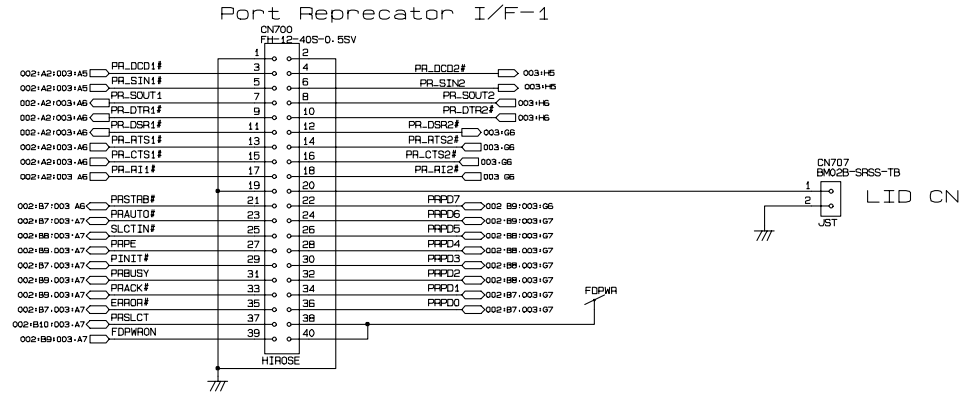
Main 39 SMI

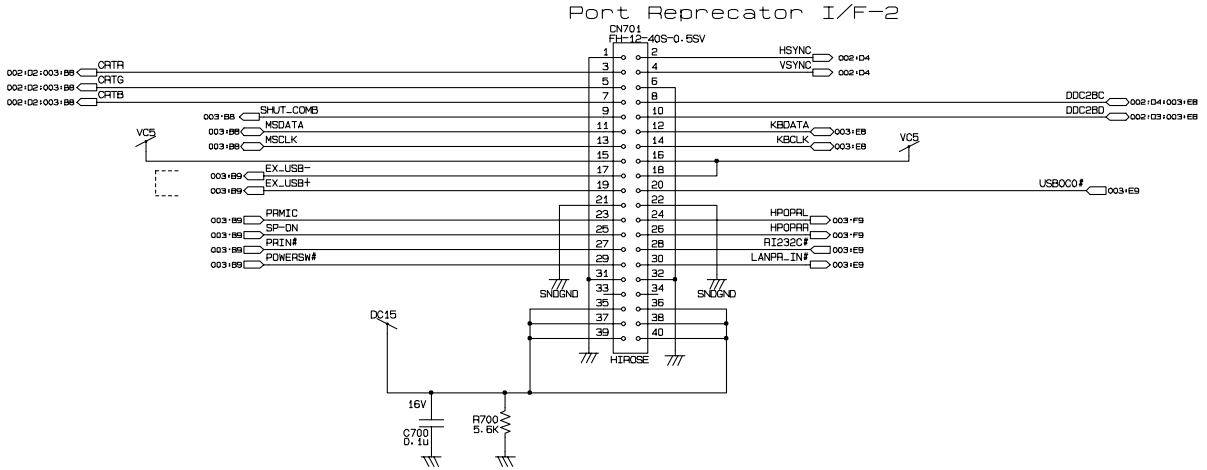

IC152 VGA SM712G4AA
IC152 SM712G4AA
IC152 VGA SM712G4AA
AD[0-31]
PDATA[0-23]
BGA316
SMI
NU
VB3
VB25
IC147 SI3025LS
SANKEN
IC153
NC7SZ32P5X
RSTGATE
PCIRST#
VGARSTI#
V-AVSS
IC154 R1121N331B
JUMPER
0010 SVGA
0100 XGA
01 800x768
10 1024x768
F edge
TFT
DSTN I/F
18bit

Main 40 LVDS

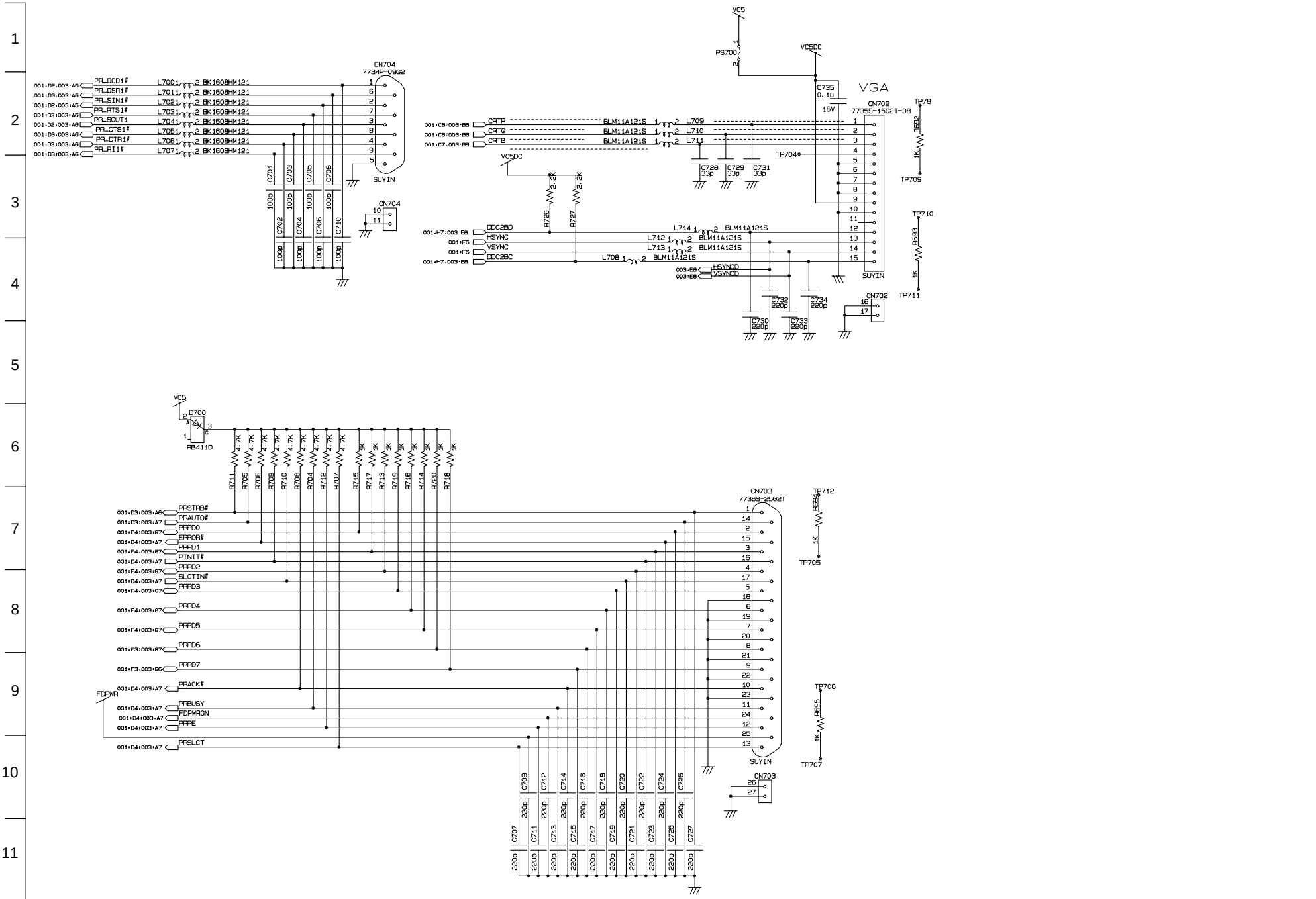

IC155
DAC63W63AX3H
48P-QSOP
FPHDE
FLM
LP
LVDSCLK
FPVEE
PDATA[5]
PDATA[4]
PDATA[3]
PDATA[2]
PDATA[1]
PDATA[0]
PDATA[13]
PDATA[12]
PDATA[11]
PDATA[10]
PDATA[9]
PDATA[8]
PDATA[21]
PDATA[20]
PDATA[19]
PDATA[18]
PDATA[17]
PDATA[16]
LVD2+
LVD2-
LVD1+
LVD1-
LVD0+
LVD0-
LVCLK+
LVCLK-
ACB1608H-015
BLM21A121
C130
NU(0.1u)
(0.1u)
C131
NU(1u)
C132
NU(0.1u)
6.3V
C129
C127
C128
R197
VC3

I/O 1 CN

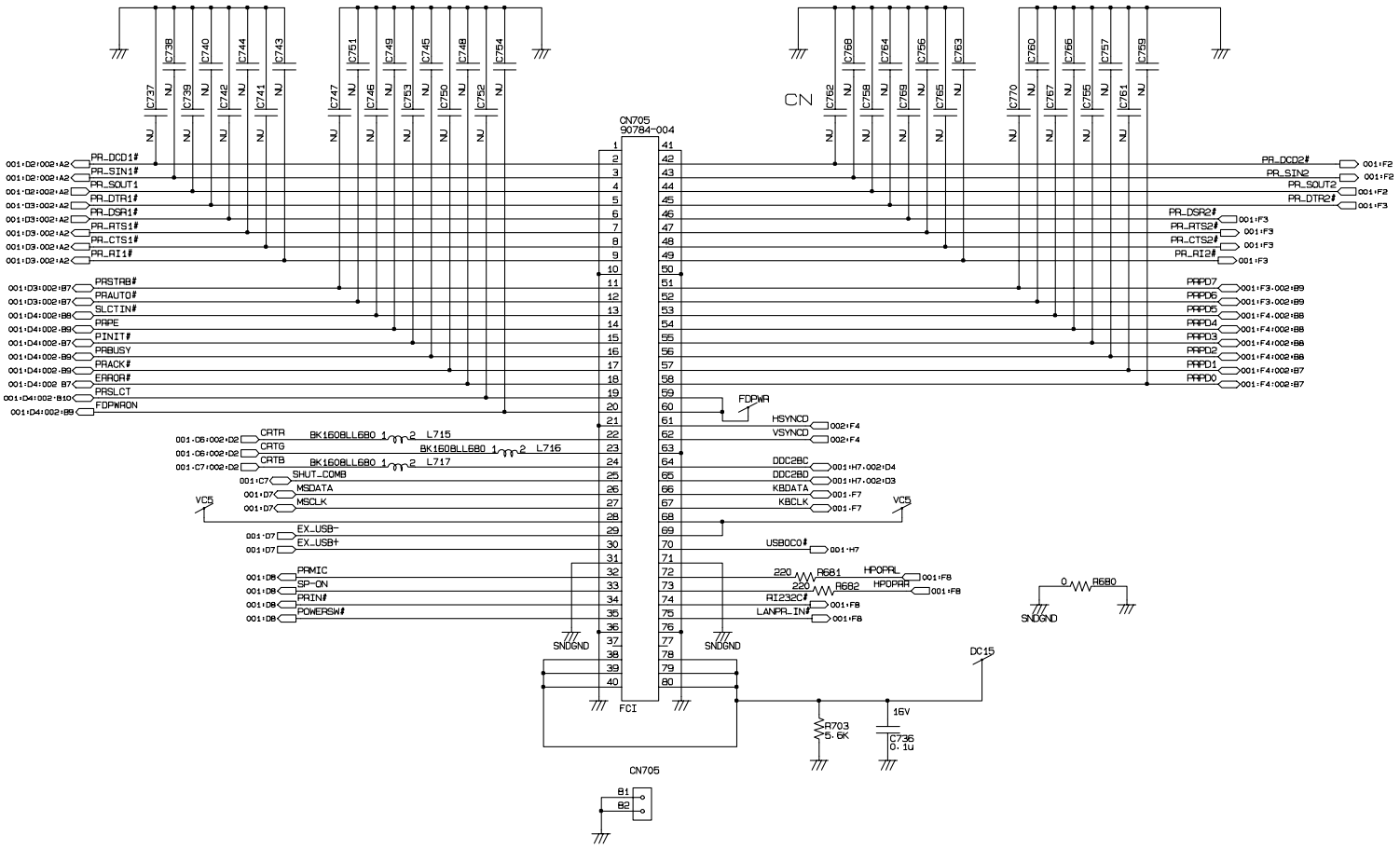

Port Reprecator I/F-1
CN700
FH-12-40S-0.5SV
PA_DCD1#
PA_SIN1#
PA_SOUT1
PA_DTR1#
PA_DSR1#
PA_RTS1#
PA_CTS1#
PA_RI1#
PASTRB#
PAAUTO#
SLCTIN#
PAPE
PINIT#
PABUSY
PAACK#
ERROR#
PASLCT
FDPWRON
PA_DCD2#
PA_SIN2
PA_SOUT2
PA_DTR2#
PA_DSR2#
PA_RTS2#
PA_CTS2#
PA_RI2#
PAPD7
PAPD6
PAPD5
PAPD4
PAPD3
PAPD2
PAPD1
PAPD0
FDPWR
HIROSE
CN707
BM02B-SRSS-TB
JST
LID CN


Port Reprecator I/F-2
CN701
FH-12-40S-0.5SV
CRTR
CRTG
CRTB
SHUT_COMB
MSDATA
MSCLK
EX_USB-
EX_USB+
PAMIC
SP-ON
PRIN#
POWERSW#
HSYNC
VSYNC
DDC2BC
DDC2BD
KBDATA
KBCLK
USBOC0#
HPOPRL
HPOPRR
AI232C#
LANPA_IN#
VC5
SNDGND
HIROSE
DC15
16V
C700
0.1u
R700
5.6K

I/O 2 CN


VGA
CN704
7734P-09G2
SUYIN
CN702
7735S-15G2T-08
SUYIN
CN703
7736S-25G2T
SUYIN
VC5
VC5DC
PS700
D700
RB411D
PA_DCD1#
PA_DSR1#
PA_SIN1#
PA_RTS1#
PA_SOUT1
PA_CTS1#
PA_DTR1#
PA_RI1#
CRTR
CRTG
CRTB
DDC2BD
HSYNC
VSYNC
DDC2BC
HSYNCD
VSYNCD
PRSTRB#
PRAUTO#
PRPD0
PRERR#
PRPD1
PINIT#
PRPD2
SLCTIN#
PRPD3
PRPD4
PRPD5
PRPD6
PRPD7
PRACK#
PRBUSY
FDPWRON
PRPE
PRSLCT
FDPWR
TP78
TP709
TP710
TP711
TP712
TP705
TP706
TP707
TP704

I/O 3 CN


CN705
90784-004
FCI
CN
PA_DCD1#
PA_SIN1#
PA_SOUT1
PA_DTR1#
PA_DSR1#
PA_RTS1#
PA_CTS1#
PA_RI1#
PASTB#
PAAUTO#
SLCTIN#
PAPE
PINIT#
PABUSY
PAACK#
ERROR#
PASLCT
FDPWRON
PA_DCD2#
PA_SIN2
PA_SOUT2
PA_DTR2#
PA_DSR2#
PA_RTS2#
PA_CTS2#
PA_RI2#
PAPD7
PAPD6
PAPD5
PAPD4
PAPD3
PAPD2
PAPD1
PAPD0
FDPWR
HSYNCD
VSYNCD
DDC2BC
DDC2BD
KBDATA
KBCLK
USB0C0#
HPOPRL
HPOPRR
RI232C#
LANPA_IN#
CRTR
CRTG
CRTB
BK160BLL680
L715
L716
L717
SHUT_COMB
MSDATA
MSCLK
EX_USB-
EX_USB+
PAMIC
SP-ON
PRIN#
POWERSW#
VC5
SNDGND
DC15
R703
5.6K
C736
0.1U
16V
R680
R681
R682
220
CN705
B1
B2